IN THE SUPREME COURT OF THE STATE OF NEVADA

PLUMBERS LOCAL UNION NO. 519 PENSION TRUST FUND; AND CITY OF STERLING HEIGHTS POLICE AND FIRE RETIREMENT SYSTEM, DERIVATIVELY ON BEHALF OF NOMINAL DEFENDANT DISH NETWORK CORPORATION,

Appellants,

vs.

CHARLES W. ERGEN; JAMES DEFRANCO; CANTEY M. ERGEN; STEVEN R. GOODBARN; DAVID K. MOSKOWITZ; TOM A. ORTOLF; CARL E. VOGEL; GEORGE R. BROKAW; JOSEPH P. CLAYTON; GARY S. HOWARD; DISH NETWORK CORPORATION, A NEVADA CORPORATION; AND SPECIAL LITIGATION COMMITTEE OF DISH NETWORK CORPORATION,

Respondents.

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JOINT APPENDIX
Vol. 58 of 85
[JA013324-JA013573]

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[1] Volumes 2-85 of the Joint Appendix include only a per-volume table of contents. Volume 1 of the Joint Appendix includes a full table of contents incorporating all documents in Volumes 1-85.

[2] The Evidentiary Hearing Exhibits were filed with the District Court on July 6, 2020.

EXHIBIT 667

EXHIBIT 667

UNITED STATES DISTRICT COURT
FOR THE CENTRAL DISTRICT OF ILLINOIS
SPRINGFIELD DIVISION

UNITED STATES OF AMERICA and the STATES OF CALIFORNIA, ILLINOIS NORTH CAROLINA, and OHIO, Plaintiffs, v. DISH NETWORK, LLC Defendant.	Case No. 3:09-cv-03073-SEM-TSH

HIGHLY CONFIDENTIAL

REVISED RESPONSIVE EXPERT REPORT
OF
REBECCA KIRK FAIR

September 15, 2016

DEFENDANT'S EXHIBIT
DTX-1096

JA013325
012068

I. QUALIFICATIONS

1. I am a Managing Principal with Analysis Group, Inc., a consulting firm headquartered in Boston, Massachusetts. I have a Master of Business Administration degree in finance and applied economics from the MIT Sloan School of Management in Boston, Massachusetts. My curriculum vita is attached hereto as **Appendix A**.

2. Over my twenty-year career at Analysis Group, I have conducted economic analyses and consulted in a broad range of cases requiring processing and statistical analysis of large datasets, and have managed projects involving those large datasets to measure damages or assess class certification issues. I have worked on over 200 intellectual property, false advertising, class certification, and antitrust litigations. I have served as an expert witness in matters involving corporate valuation, breach of contract damages, and trademarks.

3. I also have extensive experience in the development, administration, and analysis of data on consumer behavior. I have supported the design and implementation of on-line, mall-intercept, and telephone surveys using a variety of methodologies. Over the course of these assignments, I have developed expertise in sampling from large databases, defining and soliciting target sample populations, and carrying out statistical analysis with large volumes of survey data. I have served as an expert witness and supported experts in matters involving the design and implementation of consumer surveys. I also have experience in the evaluation of surveys related to consumer perception, feature value, and marketing procedures in connection with intellectual property, consumer protection, antitrust, and trademark matters.

II. ASSIGNMENT

4. I have been asked to offer my opinions on whether the methodology that Dr. Yoeli used in his Revised Supplemental Expert Report[1] was sufficient to support the conclusion he offered in that report: that his analysis "provide[s] further evidence that a significant

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[1] Revised Supplemental Expert Report of Dr. Erez Yoeli for Plaintiff States of California, Illinois, North Carolina & Ohio, *United States of America and the States of California, Illinois, North Carolina, and Ohio v. DISH Network L.L.C.*, United States District Court for the Central District of Illinois Springfield Division, Case No. 3:09-cv-03073 (hereafter, "*USA v. DISH*"), July 7, 2016 (hereafter, "Yoeli 2016 Report").

percentage of Dish's and its retailers' calls were made to residential landline numbers associated with the Plaintiff States."[2]

5. **Appendix B** includes a list of all documents and data that I considered for my assignment. I reserve the right to amend or supplement this report if additional relevant documents or information become available.

6. The hourly rate charged for my work on this case is $650. My compensation is not contingent on the nature of my findings or the outcome of this case. I have directed employees of Analysis Group with expertise in querying sophisticated databases and analyzing data to assist me in this assignment. Part of the work for this report was performed by other professional staff at Analysis Group under my direction.

III. CASE BACKGROUND

7. I submitted an Expert Report in this matter on September 15, 2015.[3] In my report, I discussed in detail work that Dr. Yoeli and Mr. Stauffer performed in April and June of 2015, which attempted to classify certain calls at issue as being made to residential, business, or wireless phone numbers in the Plaintiff States. In my 2015 report, I identified several methodological flaws in both Dr. Yoeli's and Mr. Stauffer's analyses that rendered them unreliable, including, amongst others, the use of PossibleNOW data that were not collected nor maintained to serve the purpose for which they were being used and the use of a sample of calls drawn from incorrect call records. It is my understanding that following my 2015 report, the State Plaintiffs withdrew Dr. Yoeli's opinion regarding the residential analyses conducted in April and June 2015 due in part to the errors that I identified.[4] I also understand that following the withdrawal of these analyses, on January 14, 2016, in advance of the trial that began on January 19, 2016, the State Plaintiffs submitted additional analysis of PossibleNOW data that Mr. Stauffer

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2 Yoeli 2016 Report, p. 6.

3 Rebuttal Expert Report of Rebecca Kirk Fair (hereafter, "Kirk Fair Report"), *USA v. DISH*, September 15, 2015.

4 Letter from Kamala D. Harris to Peter Bicks, Elyse Echtman, and John Ewald, *Re: United States et. al. v. Dish Network,* November 18, 2015.

performed. I understand that the State Plaintiffs are no longer relying on this additional analysis.[5]

8. Dr. Yoeli and Mr. Stauffer had previously submitted a similar analysis (also relying on PossibleNOW) as part of Dr. Yoeli's October 16, 2012 report, revised on December 14, 2012.[6] To the best of my knowledge, this analysis has not been withdrawn. At trial, Dr. Yoeli testified to his methodology from this report as well as his results for the DISH 2007-2010 calls, Tenaya (Star Satellite) calls, DISH 2003-2007 calls, and JSR calls.[7] According to his testimony, this analysis indicates that "in general DISH was making calls to residential landlines in the sets that we were looking in."[8] Dr. Yoeli stated this conclusion also applied to the retailers.[9]

9. I understand that following the January-February 2016 trial, the Plaintiff States requested address information from DISH associated with seven sets of call records (the "Call Records") relating to calls that DISH made from 2007-2010.[10] These Call Record files included:

   a) **fed_tmy_ebrn** and **fed_tmy_ebru**. These files are Dr. Yoeli's Conclusion 1 and 1A files from his July 19, 2012 report.[11]

   b) **No English (DTX 909)**, **Uncompleted (DTX 905)**, and **Inquiry (DTX 907)**. These files are subsets of fed_tmy_ebrn and fed_tmy_ebru that Mr. Taylor identified in his September 20, 2012 report.[12]

   c) **Taylor 501,650 (DTX 903)**. This file contains the "issue calls" that Mr. Taylor identified in his October 14, 2013 report.[13]

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5 State Plaintiffs' Response to the Court's May 11, 2016 Text Order and Motion for Proposed Discovery Schedule, *USA v. DISH*, June 8, 2016, p. 1.

6 Rebuttal Report by Dr. Erez Yoeli, *USA v. DISH*, October 16, 2012; Revised Rebuttal Report by Dr. Erez Yoeli, *USA v. DISH*, December 14, 2012 (hereafter, "Yoeli December 2012 Report"). Mr. Stauffer's analysis was attached as Appendix I to Dr. Yoeli's October 16, 2012 report (hereafter, "Stauffer 2012 Declaration").

7 Testimony of Dr. Erez Yoeli (hereafter, "Yoeli Testimony"), *USA v. DISH*, January 19, 2016, pp. 190-202.

8 Yoeli Testimony, January 19, 2016, p. 201.

9 Yoeli Testimony, January 19, 2016, p. 201.

10 Plaintiffs' Requests for Production Pursuant to Opinion 624, *USA v. DISH*, March 4, 2016.

11 Report of Dr. Erez Yoeli, *USA v. DISH*, July 19, 2012.

12 Revised Expert Report of PossibleNOW: John Taylor, "Dish Network Calling Record Analysis (2007-2010)," *USA v. DISH*, September 20, 2012.

13 Expert Report of John T. Taylor, *USA v. DISH*, October 14, 2013.

d) **AM Calls (PX1410).** This file contains AutoMessage calls that Dr. Yoeli identified in his December 18, 2013 declaration.[14]

10. Dr. Yoeli reports results for each of these call sets separately. However, it is important to note that as Dr. Yoeli conceded at trial, the call sets contain overlapping records.[15] In other words, some calls appear in multiple datasets. Thus, the results of his analysis are not additive: adding up results across all seven sets would over-count Call Records.

11. In response to the State Plaintiffs' request, DISH produced 11 "Sets" of address data (the "Produced Address Data") from various internal and external sources, numbered Set 1 through Set 11. Of these 11 sets of address data, DISH produced two sets of Customer Account Data (Set 1A, and Set 8)[16], seven sets of Other DISH Internal Data (Sets 2-7, and Set 9), and two sets of External Data (Set 10 - TransUnion, and Set 11 - Speedeon). Each Set contained one file for each of the seven requested call sets, containing the Call Records and appended address information, for a total of 72 files.[17] In some cases there are multiple address sources for a given phone number. I discuss the produced datasets and the underlying sources of these data in more detail in Section V.A., below.

IV. SUMMARY OF OPINIONS

12. Dr. Yoeli concludes that his 2016 analysis "provide[s] further evidence that a significant percentage of Dish's and its retailers' calls were made to residential landline numbers associated with the Plaintiff States."[18] This conclusion is unsubstantiated by Dr. Yoeli's analysis as described in his report.

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14 Declaration of Dr. Erez Yoeli, *USA v. DISH*, December 18, 2013.

15 "Q. Does this purple circle in Demonstrative 1 [representing EBRU + EBRN], does that include any of the calls on which summary judgment was granted? A. It includes some." Yoeli Testimony, January 19, 2016, p. 171. Due to this overlap, which I understand amounts to seeking duplicative penalties for the same calls, the DOJ stipulated at trial that the number of calls it was seeking in the EBRU and EBRN files was a maximum of 1,634,702. The State Plaintiffs similarly agreed to seek damages based on the state portion of this reduced stipulated number, I understand to prevent the possibility of double recovery. Yoeli Testimony, January 20, 2016, pp. 425-433.

16 DISH also produced Set 1, which is a subset of Set 1A. For the purposes of this report, I will reference only Set 1A.

17 The External Data were only produced for those phone numbers that did not otherwise have address data within the DISH records. Some of the seven call sets were fully populated using DISH sources. Thus, TransUnion data were produced for five of the seven call sets and Speedeon data were produced for four of the seven call sets. See Yoeli 2016 Report, Appendices B and D.

18 Yoeli 2016 Report, p. 6.

13. First, Dr. Yoeli's July 2016 analysis suffers from several design flaws that render it unreliable for determining the physical location of a phone number at the time a call was placed. His approach groups all sources of Produced Address Data together and treats them as equally reliable. He further fails to consider how the type of call made by DISH relates to the address and date information, which raises further questions as to the reliability of the address at the time of the call. As I describe below, calls made by DISH were intended for active, former and potential future customers, each of which may have a different expected relationship to address information at the time of the call. As a result of these flaws, his "Any State" method overstates the share of DISH calls associated with the Plaintiff States at the time of the call by including calls with inconsistent state information. His "All State" method employs an overly simplistic matching approach that ignores important information about the relationship between the call type and address information.

14. Second, Dr. Yoeli's conclusion refers to "Dish and its retailers' calls," but Dr. Yoeli's analysis is limited to calls that DISH made and there is no analysis of calls that retailers made in his July 2016 analysis. I understand that the State Plaintiffs are seeking damages for over 32 million calls.[19] In contrast, the Produced Address Data relate to 5.1 million Call Records, all related to calls that DISH made from 2007-2010.[20] The Call Records for which DISH provided address data comprise a completely separate population from the millions of other calls that retailers made for which the State Plaintiffs are seeking damages. Dr. Yoeli's July 2016 analysis does not include any calls that retailers made and cannot be used to infer any information about calls made by others, based on different campaigns, for different purposes, and using a different process (notably, testimony from DISH retailers indicates that they do not conduct outbound calling activities in a similar manner as DISH).

15. Third, Dr. Yoeli's stated July 2016 conclusion suggests that his July 2016 analysis can be used to support his, and by extension, Richard Stauffer's prior analyses regarding

[19] State Plaintiffs' Post-Trial Proposed Conclusions of Law, *USA v. DISH*, April 29, 2016, pp. 15, 19, 26, 31, 38, 41, 44, 52.

[20] This represents the sum of the seven call sets, without accounting for the duplicate records discussed in FN 15, above.

residential landlines for the retailer calls. However, the Produced Address Data and Dr. Yoeli's July 2016 analysis do not provide information on whether an address associated with a retailer call is residential, a business, or a landline. As I discussed in my September 15, 2015 report, these analyses suffered from numerous flaws that rendered them unreliable. The 2012 analysis suffers from similar flaws, which I discuss below.

16. At most, some of the Produced Address Data "provide further evidence" that an address was associated with a DISH Call Record for a subset of the Call Records at the time of the call.[21] However, even for these Call Records, the data, and Dr. Yoeli's analysis, provide no evidence as to whether any of the Call Records were "made to residential landline numbers" nor do they provide any information relevant to calls made by retailers.

V. DR. YOELI'S ANALYSIS IGNORES FUNDAMENTAL INFORMATION ABOUT THE DATA SOURCES AND THE CALL TYPES

17. Dr. Yoeli's analysis ignores the reliability, or lack thereof, of the data. He simply uses all of the data he is given in two simplistic aggregated methodologies with simple matching algorithms based on phone numbers. He does not investigate either the overall reliability of the underlying data sources or their reliability at the time of the call. Furthermore, he does not attempt to confirm, nor even consider, how and why each data set was maintained and whether these data would be reliable or reasonable as of the date of the call given the type of call being made.

18. Specifically, Dr. Yoeli reports the results of two simplistic matching algorithms. In the first, which he calls his "All States Match," he defines a Call Record as a match to one of the Plaintiff States if the area code of the phone number is associated with a Plaintiff State and all of the addresses found across the data sets are associated with the same state. In the second methodology, his "Any States Match," he defines a Call Record as a match if the area code of the phone number is associated with a Plaintiff State and *at*

[21] I understand that DISH counsel may contend that some or all of these calls had an Existing Business Relationship and thus are not violative calls.

least one of the addresses found across the data sets has the same state.[22] Notably in this second method, Dr. Yoeli ignores recognized contradictions across datasets.

19. With respect to these address data, there are three key questions that must be asked to assess their potential to reliably determine whether a phone number is associated with a physical address at the time of the call:

a) First, one must consider whether the data were created to capture the relationship between a given phone number and the location where that phone line exists. For instance, DISH may maintain addresses and phone numbers for its customers but need not necessarily maintain them for the purpose of associating the address with the phone number for a given customer.

b) Second, one must consider whether and how these data sources related to DISH at the time of the call. While some data sources were created and maintained by DISH, others represent external data. The TransUnion and Speedeon data were produced "as a proxy for data that [DISH] had originally obtained from Equifax."[23] These data sources (including the original Equifax data) are external marketing databases, and were not necessarily created for the purpose of ascertaining the correct address associated with a telephone number.

c) Third, one must consider whether the address information relates logically to the Call Record information, i.e., is it relevant. DISH places outbound telephone calls for myriad reasons and each type of call has a unique purpose and thus should relate in particular ways to the various data sources (at least for the data maintained by DISH) in a particular manner.

20. In treating all data sources equally, Dr. Yoeli fails to consider these issues.

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[22] See Yoeli 2016 Report, p. 5. Dr. Yoeli restricts certain address sources based on the contained dates; for instance, he only includes addresses from the Customer Account Data if the call date falls between the "begin" and "end" dates. I discuss his date restrictions further below, in Section V.A. Other than date restrictions, he treats all addresses as equally reliable.

[23] Yoeli 2016 Report, Appendix C. I have no reason to believe that the External Data are more or less reliable than the Equifax data DISH used at the time.

A. Dr. Yoeli Ignores the Difference between Data Sources

21. Dr. Yoeli does not consider these questions in his analysis. Dr. Yoeli does not consider the purpose or sponsor of the data sources, treating all internal and external data as equally reliable and relevant to the Call Records. Dr. Yoeli only differentiates between the data sources to the extent that he treats dates in different data sources differently. He categorizes the data sources into four categories:[24]

a) Datasets with start and end dates. This includes Sets 1 and 8, which include "location begin date" and "location end date," Sets 4 and 6, which include "effective date" and "expiration date," and the TransUnion data, which include "date first seen" and "date last seen." For these datasets, he includes addresses only if the call date falls between the dates he defines as the start and end dates.

b) Datasets with only "creation" dates. This includes Sets 2 and 3, which include a "lead creation date," and Set 7 which includes a "created date" and a "last updated date." For these datasets, he includes addresses only if the call date falls after the creation date.

c) Datasets with "action" dates. This includes the Speedeon data, which includes a date on which records were inserted or deleted from the database.[25] For this dataset, he includes addresses only if the call date falls after an "insert" record and/or before a "delete" record.

d) Datasets without dates. This includes Sets 5 and 9. For these datasets, he includes all addresses.

22. While Dr. Yoeli distinguishes between different dates in order to integrate these date variables into his analysis, he does not consider whether the different dates in different databases that he groups together as "start dates" have the same meaning as each other. Dr. Yoeli's Appendix D contains detailed information about the meanings of the different dates, as well as the sources of the different datasets. Despite having access to these definitions, which clearly indicate that these dates have different meanings, Dr. Yoeli

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[24] Yoeli 2016 Report, p. 3.

[25] This format is similar to the residential data from PossibleNOW that I discussed in my September 15, 2015 report.

does not consider whether the different histories of the datasets may affect their usefulness or relevance at the time of the call.

23. None of the datasets were specifically created or maintained to isolate the physical location associated with a phone number. However, the datasets contain data of varying reliability for this purpose, depending on the relationship between these data and DISH at the time of the call and the nature of the call. Dr. Yoeli fails to consider how the underlying purpose and maintenance of the data in the normal course of business may affect its reliability. Instead, Dr. Yoeli ignores these distinctions, and treats all the data sets as if they are equally valid for evaluating physical locations of telephone numbers for all campaigns.

1. Customer Account Data

24. The Customer Account Data are made up of Set 1A and Set 8. Set 1A contains billing and service addresses of DISH customers, during the period of their service.[26] Set 8 contains billing and service addresses for some additional DISH customers.[27]

25. While these data are not maintained for the specific purpose of determining the physical location of outbound calls that DISH made, maintaining accurate service addresses for its customers is relevant to DISH's business, and DISH has a business incentive to maintain these data properly. Thus, the addresses associated with these Account Numbers were likely accurate during a DISH customer's period of service.

26. However, the relationship between the phone number and the address is less clear. For various reasons, a customer may associate a phone number with their account that is not associated with the address at which the customer receives service. For example, a customer may list their work phone number as the primary contact number, because they are more reachable at that number. Similarly, a parent may list their number for service for a college-aged child or a family member may list their number for service for an elderly relative. In these cases the phone number is tied to the account and the account is

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[26] An initial dataset, Set 1, contains a subset of Account Numbers. DISH identified additional Account Numbers and produced them in Set 1A, which included both the Account Numbers in Set 1 and the additional Account Numbers.

[27] Yoeli 2016 Report, Appendix D. I note that Set 8 does not contain "phone begin date" and "phone end date" variables.

tied to the service address, but the service address is not directly tied to the phone number and thus does not provide evidence of the location of the phone line.

27. Furthermore, these data would have various degrees of relevance depending on the nature of the DISH call, which I discuss below. Despite DISH's objectives with respect to these data, even the Customer Account Data has some data anomalies that generate concerns about some records.

28. First, the end dates in the data contain anomalies. DISH inputs an end date of 12/31/2199 for those records that have not yet expired. At times, this date appears to not have been updated when a record expired.[28] For example, **Exhibit 1** shows the Customer Account Data for three Account Numbers associated with *a single phone number* for 3 separate individuals and multiple service addresses during overlapping periods. One customer, Debbie Underwood, has four service addresses listed from April 2005 to February 2008. In Ms. Underwood's case, as one might expect, each prior service address "ends" the day before a new service address "begins." The second customer account, Scott and Shira Schneider, has three service addresses listed from March 2001 to present.[29] The third customer, Pamela Broussard, is listed with one associated service address from June 2007 to present. Thus, the listed dates would indicate that both the Schneiders and Ms. Broussard have current, active service addresses associated with the same phone number. However, it may also be the case that the Schneiders ended their service or changed their phone number sometime after their November 4, 2004 move to North Carolina, and sometime before Debbie Underwood's address was associated with the phone number on April 16, 2005, but their associated address or phone number was never updated accordingly. This example indicates that while DISH entered and maintained customer address information, it may not have consistently updated the end dates or in some cases the phone numbers ultimately associated with some accounts.

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[28] While it is important for DISH's business to have accurate service addresses, it may be less important to record an "end" of an address when a customer disconnects.

[29] Two of these addresses overlap in time: one is active from March 2001 to November 2004, while the other is active from July to October 2004. The overlapping records have comparable street addresses in two neighboring cities with the same zip codes.

29. Second, historical billing and service addresses cannot be treated as equal in the data. The "begin" dates in the billing records do not appear to have been maintained consistently with the service data. **Exhibit 2** contains a histogram of the year of the "location begin date" for service records and billing records. There are over 200,000 service records for most years from 2001 to 2009, with a drop-off in frequency in 2010. In contrast, there are very few billing records with dates before 2011. The vast majority of the billing records are concentrated in 2011 and 2015. Additionally, at times, the presence of billing record dates introduces additional uncertainty. In **Exhibit 1**, discussed above, all three customers are listed with active billing addresses dating from 2011 and 2014. In fact, Debbie Underwood, whose service addresses ended as of February 18, 2008, is listed as having a billing address beginning over two years later on September 27, 2011 and continuing to this day. These exhibits demonstrate that although service address start dates may be accurately maintained, billing address dates can contain start date discrepancies. While the billing records are from the same source as the service records, their associated dates may be less reliable than the service records. Dr. Yoeli does not distinguish between billing and service records in his analysis.

30. Third, customer accounts may be associated with dozens of states. For example, see **Exhibit 3**. In this case, one phone number is associated with 52 customer accounts in seven different states. This phone number has an area code associated with California; thus, Dr. Yoeli would classify these records as being in California using his "Any State" methodology despite the clear data anomalies. The association of this number with seven different states provides evidence that an area code for a phone number is not sufficient information to conclude the physical location of a phone number at the time of a call.

2. Other DISH Internal Data

31. In addition to maintaining active account information, DISH had other data in its files that it produced. Other DISH Internal Data is made up of Sets 2-7 and Set 9:

a) **Sets 2 and 3**. These are datasets that include leads from two different Lead Tracking Systems. Set 2 contains historical lead data from the Lead Tracking

System that DISH used at the time of the Call Records. Set 3 contains leads from the current Lead Tracking System DISH implemented starting in 2013;[30]

b) **Set 4**. These data were pulled from DISH's internally maintained "Do Not Mail" portion of its "Do Not Contact" ("DNC") database. These records were identified by looking up Account Numbers that had historically been linked with phone numbers in the Call Records;[31]

c) **Set 5**. These data were pulled from historical marketing data;[32]

d) **Set 6**.[33] These data were "pulled from a database containing customer accounts generated by retailers and used to determine retailer compensation. SalesComm is the database of record for all payments that are made to retailers";[34]

e) **Set 7**. These data were pulled from Siebel, a "database containing information on customer accounts generated by order entry retailers";[35]

f) **Set 9**. These data were pulled from DISH's Production Operational Data System ("PODS").[36]

32. Due to differences in the way that these datasets were stored and updated, there may be concerns with using the data in the way proposed by Dr. Yoeli. Specifically:

33. <u>First, these datasets were not maintained for the purpose for which Dr. Yoeli uses them</u>. Though these datasets contain address fields, there is no reason to believe that the address data were maintained consistently over time. Unlike the Customer Account Data, for which DISH updates and maintains addresses and phone numbers to perform business

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30 Yoeli 2016 Report, Appendix D.
31 Yoeli 2016 Report, Appendix D.
32 Yoeli 2016 Report, Appendix D.
33 In the "process of appending Set 6 information," three of the Call Record sets were de-duplicated. DISH also produced Set 6A files for these three Call Record sets, including the Call Records that had been removed in the de-duplication. No address information was affected in the amended files. See Yoeli 2016 Report, Appendix D.
34 Yoeli 2016 Report, Appendix D.
35 Yoeli 2016 Report, Appendix D.
36 Yoeli 2016 Report, Appendix D.

functions, these datasets do not necessarily require consistently maintained address fields to fulfill their internal purposes.[37]

34. <u>Second, the datasets do not contain sufficient information to associate phone numbers with addresses at the time of the call</u>. Even in cases where addresses are needed for the daily maintenance of the database, such as the "Do Not Mail" database, the link between the address and the phone number is not always clear. Many of these data sources were identified using Account Numbers that DISH identified as having ever been associated with the phone number in question.[38] The data sources contain date fields that associate the address with that particular Account Number, but there is no indication of when the Account Number was associated with the phone number. Thus, there is no indication that the phone number was associated with the Account Number at the time that the address information was entered or at the time that a call was made.

35. <u>Third, the date fields are inconsistent and not meaningful</u>. Dr. Yoeli treats the dates in all datasets as equally reliable and meaningful for determining when an address was associated with a phone number. The dates, however, are primarily related to when a record was created or updated in a database and, because the databases are not maintained for the purpose of associating historical addresses with phone numbers, may not relate logically to when an address was in use. For example, in the case of Set 4, the "Do Not Mail" database discussed above, these dates represent when an address became effective under "Do Not Mail" and when that request would expire. The expiration of the "Do Not Mail" request may not provide any information about the ownership of the address at the time of expiration – an expiration date may be after the time a person has left their current residence, or before. In the cases of Set 5 and Set 9 there is no date information whatsoever, and thus no association between the call date and the address information.

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[37] For example, if DISH receives a lead in the Lead Tracking System with an inaccurate address, and the person signs up for DISH service and informs DISH of their correct address, the correct address would be entered into the Customer Account Data but is unlikely to be retroactively updated in the Lead Tracking System.

[38] Yoeli 2016 Report, Appendix D.

3. External Data

36. The External Data is made up of Set 10, which was provided by TransUnion, and Set 11, which was provided by Speedeon. For those Call Records that did not match any Account Numbers and ultimately address records in the DISH Customer Account Data or Other DISH Internal data, DISH collected data from TransUnion. Excluding those incremental Call Records that matched one or more addresses in TransUnion, DISH collected data from Speedeon.

37. I understand that DISH received data from Equifax with consumer addresses for cold call campaigns, and the External Data are equivalent data sources that were produced as a proxy.[39] However, the dates in the External Data (as would have been the case with the original Equifax data) were created by third-party vendors.

38. <u>The External Data are incomplete and/or internally inconsistent.</u> The TransUnion data contain two dates: "date first seen" and "date last seen." In some cases, these dates overlap for the same phone number, indicating multiple associated addresses and names. **Exhibit 4.A** contains an example from the TransUnion data where two people in six different states are associated with one phone number at the time of the Call Record.[40] Mr. Polak is associated with an address in New Jersey and an address in Pennsylvania, while Ms. Grecco is associated with addresses in Utah, Oklahoma, Florida, and California.

39. The Speedeon data contain one date "action date" as well as a variable "action" indicating whether the record was inserted or deleted on that date.[41] However, the date history appears incomplete in some cases. For example, **Exhibit 5.A** contains the Speedeon history for one phone number. Speedeon indicates that the phone number, with

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[39] Yoeli 2016 Report, Appendix D.

[40] Similarly, **Exhibit 4.B** contains an example from the TransUnion data where two people in five states are associated with one phone number at the time of the Call Record. Mr. Hitz is associated with addresses in California and Washington, while Mr. Lan is associated with addresses in Ohio, Maryland, and Texas. **Exhibit 4.C** contains an example from the TransUnion data where four people in three states are associated with one phone number at the time of the Call Record. Mr. Allen is associated with addresses in North Carolina and South Carolina, Ms. Ambrose is associated with addresses in North Carolina and Mississippi, and Bryan and Dollie Edwards are associated with two addresses in North Carolina.

[41] These data are similar to the PossibleNOW residential and business directories which I discussed at length in my September 15, 2015 report.

an associated address, was deleted on February 16, 2005. The next record indicates the same phone number, with a different associated address, was deleted on June 2, 2014. From these data, it is not clear when the latter address became effective, nor why Speedeon is apparently missing the corresponding "Insert" record that one would expect.[42]

40. The External Data may be inherently unreliable. I understand that the TransUnion data are from a marketing database maintained by TransUnion, one of the "big three" credit reporting agencies, along with Equifax and Experian.[43] Such credit reporting agencies do not necessarily maintain address information consistently and reliably. The business purpose of information collected by credit reporting agencies is primarily to assess a person's creditworthiness. While the address is included in this information, it does not affect a person's credit score.[44] In addition, credit reporting agencies, such as Equifax and TransUnion, have been known to have data recording issues.[45]

41. Further, it is not clear how TransUnion or Speedeon collect and maintain address data (or how Equifax similarly collected and maintained its address data).

B. Dr. Yoeli Ignores the Relationship between Call Type and Address Data

42. The Call Records analyzed in the Yoeli 2016 Report concern calls made by DISH for various business purposes. These purposes provide information that is useful for evaluating the reliability, certainty, and relevance at the time of the call for certain addresses included within these datasets. **Exhibit 6** summarizes the types of calls

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42 Similarly, **Exhibit 5.B** contains an example from the Speedeon data where the first three records are "deletes" with no associated inserts, followed by one insert record. All four records include different first and last names, sometimes with overlapping addresses. **Exhibit 5.C** contains an example from the Speedeon data where the first two records are "deletes" without corresponding "inserts," followed by a later insert. Again, all three records include different first and last names with some overlapping addresses.

43 See Yoeli 2016 Report, Appendix C.

44 "Errors in header information (current/previous address, age, or employment) are not considered in determining a FICO credit score and thus are not defined as material in the context of this study." Federal Trade Commission, "Report to Congress Under Section 319 of the Fair and Accurate Credit Transactions Act of 2003," December 2012 ("2012 FTC Report"), p. v.

45 For example, an FTC report from 2012 found that in a sample of reviewed credit reports, 21% contained a material error, 4% of which contained an error in the so-called header information. The FTC notes that this is "a lower bound of the frequency of header information errors, as reports with errors only in the header information are not included." One would expect that errors in non-material items would be even more pervasive, as these fields are less considered. See 2012 FTC Report, pp. i, iv-v ("Errors in header information (current/previous address, age, or employment) are not considered in determining a FICO credit score and thus are not defined as material in the context of this study.").

included in the Call Records. **Appendix C** contains a list of each campaign in the Call Records and its associated category. To the extent that one might use the Produced Address Data to assess the address associated with a given Call Record, it is important to consider whether the address information (and particularly any available date information associated with the address) is consistent with the type of call.

43. Dr. Yoeli ignores the types of calls and treats all calls as the same in his analysis. As a result he ignores valuable information, including how the purpose and date of the call can be used together to assess the relevance and reliability of the addresses.

44. In this section I discuss each of the types of calls in the Call Records, as well as the expected relationship between the call type, DISH customers, and the data.

1. Calls to Active Customers[46]

45. **Upsells.** Upsells are calls intended for customers with active service at the time of the call, made to sell extended channel packages or other promotions.[47] Thus, one would expect an upsell call to be linked to a customer account that was associated with an active service address in the Customer Account Data at the time of the call.

46. **Non-Telemarketing Calls.** Several non-telemarketing campaigns are also included in the Call Records. Non-telemarketing campaigns included in the Call Records include campaigns to conduct surveys, informational campaigns regarding channel lineups, and campaigns to autopay customers.[48] These campaigns were intended to reach active DISH

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[46] Throughout this report I refer to customers who were current customers at the time of the call as "active" customers, to distinguish from customers who are current customers in 2016.

[47] At trial, Joey Montano, Business Operations Manager II in the Outbound Group at DISH, testified about different types of upsell campaigns, including campaigns for premium channels, campaigns for international language channels, campaigns for specific channels or specific Pay Per View events. Testimony of Joey Montano, ("Montano Testimony"), *USA v. DISH*, February 10, 2016, pp. 3096-3104.

[48] Specifically, according to Mr. Montano, BAM campaigns were campaigns where "a non-telemarketing call [was] made to customers after they completed a service package change to determine that the service package was actually indeed changed." BF Big 10 was "a non-telemarketing campaign to advise customers of a programming issue with the Big 10 package." BF Comm Rolloff was "a campaign to DISH business customers." AMEX campaigns were "customers who had paid by an American Express card. And they had previously purchased the DISH Digital Advantage Plan. And they were supposed to be enrolled in autopay and paperless billing associated with that plan." He described ENGOO2 as follows: "It's ENGOO2 as in Oscar Oscar number 2. Stands for English owned and operated. It was a survey for customers who had – English customers who had called in and talked to a customer service representative at one of our English owned and operated sites." RF_Commercial Survey is "surveys specifically to our commercial customers." Montano Testimony, February 10, 2016, pp. 3076-3093.

customers and thus would be expected to have associated active service addresses at the time of the call.

47. **Future Disconnects.** DISH sometimes calls customers who have indicated that they plan to disconnect their service at the end of the month in order to ask the customers to reconsider their decision to disconnect.[49] These customers have not yet disconnected, thus the campaigns are intended to reach active customers and one would expect associated active service addresses at the time of the call.

48. **AutoMessage**s. DISH placed pre-recorded calls to some active customers. These calls were all intended for existing customers.[50] Thus, one would expect these calls to be associated with accounts with active service addresses at the time of the call.

49. **Cancelled and Held Work Orders.** Calls on Cancelled or Held Work Order (CWO/HWO) campaigns are non-telemarketing calls that DISH placed to follow up on work orders to install or service equipment. These work orders may be for active customers who are having service problems, customers who are working to schedule installation, or customers who signed up but cancelled service prior to installation. I understand that these customers had signed up for service, although the service may not have been activated yet.[51] Thus, one would expect a work order call to be associated with a customer with an associated Account Number and thus an active associated service address at the time of the call.

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[49] According to Mr. Montano, campaigns with the word "FUTURE" or "E Care" are "both future disconnect requests. So the consumers had active service at the time they contacted us. They communicated to DISH they would like to disconnect at the end of the month or at the beginning of their next bill cycle." Montano Testimony, February 10, 2016, p. 3095.

[50] Montano Testimony, February 10, 2016, pp. 3041-3042.

[51] According to Mr. Montano, held work orders are "an installation work order that's in a hold state, meaning that the installation hasn't been completed. So the hold state can be something like there was bad weather at the site location at the time the installation was supposed to be completed. The technician didn't have the appropriate equipment. Or the technician didn't show up at the time. We're simply calling the consumer back to see if we can get the work order out of the hold state and resolve whatever the issue was at the time." Similarly, cancelled work orders are "another type of held work order campaign where the installation work order is in a cancelled state or a closed state. So we're simply calling the consumer to confirm whether the installation has indeed been completed or whether we need to send a technician out. Also for similar reasons, could have been weather or no line of sight or whatever the case may be." Montano Testimony, February 10, 2016, p. 3075.

2. Calls to Potential or Future Customers

50. **Inquiries**. Leads, or inquiries, are calls that DISH places in response to customers expressing an interest in DISH's services.[52] These calls are directed to potential future DISH customers; one would expect that some customers would subsequently become DISH customers and appear in the Customer Account Data with addresses post-dating the call, while others would not ultimately sign up for DISH service. The Produced Address Data also includes two sets, Sets 2 and 3, which are from DISH's Lead Tracking System and include the date DISH received a lead for a phone number.

51. **Opt-Ins.** There is one campaign in the Call Records, EP HOMES ORG, which was a campaign where customers opted in to hear about DISH service.[53] This campaign functions similarly to a lead: one would expect some, although not all, opt-in calls to result in future customer accounts dated after the call.

52. **Cold Calls.** Cold calls are calls placed to potential customers in an attempt to sell DISH service. They are distinct from inquiries because the customers did not previously inquire about DISH service.[54] As with leads, one would expect some, but not all, cold calls to result in future customer accounts.

3. Calls to Former Customers

53. **Winbacks.** Winbacks are calls DISH makes to try to "win back" customers who previously disconnected.[55] Thus, one would expect a winback call to be linked to a customer account that had previously been active. In fact, DISH's campaign naming system is specific about the number of months between when a customer disconnected and when the winback call was made. Thus, a 6-month winback call should be associated with a customer account that had been disconnected approximately 6 months prior.

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[52] Mr. Montano testified that inquiry calls can be identified with the letters "LTS" in the campaign name and that they are calls for which "the consumers have inquired." Montano Testimony, February 10, 2016, p. 3087.

[53] Montano Testimony, February 10, 2016, pp. 3120-3122.

[54] Montano Testimony, February 10, 2016, pp. 3116-3117.

[55] Montano Testimony, February 10, 2016, pp. 3093-3094.

VI. DR. YOELI'S "ANY STATE" METHOD IS UNREASONABLE

54. As noted, Dr. Yoeli's analysis is not reliable. It is particularly clear that his "Any State" method cannot be relied upon and in fact, the differences between his "Any State" and "All State" methodologies emphasize the limitation in using the area code of a phone number to determine the physical location for the phone number at the time of a call.

55. In his "Any State" method, Dr. Yoeli clearly overstates the share of DISH calls associated with the Plaintiff States at the time of the call. In this method, Dr. Yoeli compares the area code of a phone number to the list of states associated with that phone number among all of the Produced Address Data. If at least one of the states associated with the phone number in the Produced Address Data matches the state of the area code, his analysis classifies this as a match.

56. This classification system assumes that in the case of a contradiction, the state that matches the area code is the correct one. However, the area code only indicates that the phone number may have been associated with that state *at some point in time*. Each state associated with the phone number in the Produced Address Data contains the same information: the phone number was associated with that state *at some point in time.* The fact that the area code is from a different "source" of information than the Produced Address Data causes Dr. Yoeli to value it differently, even in cases where there are multiple records in the Produced Address Data that contradict the area code.

57. In fact, the Produced Address Data sometimes contains additional information about the date a phone number was associated with a state. For example, **Exhibit 7.A** contains a case that Dr. Yoeli classifies as being associated with California using his "Any State" methodology. This phone number appears in the Customer Account Data associated with active service and billing records located in Florida at the time of the call. The phone number, associated with the same person's name, also appears in the Set 2 (Lead Tracking System) data without a full address, but listed in California. Based on these data, it is not possible to state with certainty which address is the correct associated address. However, the complete Customer Account record, including full address, start date, and Account Number, appears more reliable than a lead record with only city, state, and zip code. Despite this discrepancy, Dr. Yoeli classifies the call as being made to

California in his "Any State" match because the area code is associated with California and at least one of the address records is also associated with California.

58. Similarly, **Exhibit 7.B** contains a Call Record with a call date in September 2007 that Dr. Yoeli classifies as being associated with North Carolina using his "Any State" methodology. The phone number appears in the Customer Account Data, associated with an active service address located in Michigan from May 2006 to March 2008 (during the time of the call). The phone number also appears in Set 6 (SalesComm), associated with North Carolina with an effective date of April 1999. Despite the fact that the Customer Account Data are both more relevant and more recent, Dr. Yoeli treats the two data sources as equivalent. In fact, the Customer Account Data also contain the North Carolina address from Set 6, but indicate that the address was associated with the account only from March 2001 to May 2006, and was no longer associated with the account at the time of the call.

59. In some cases, further review of the data may allow one to make judgment calls about the state most likely to be associated with the phone call. In other cases, the contradiction is not resolvable from available data. See, for example, **Exhibit 8**. As of January 1, 2009, this phone number was associated with a customer at a service address in Pennsylvania and a billing address in Illinois. There is no way to tell, based on these data, whether the phone number associated with the account was in Pennsylvania or Illinois at the time of the call. Dr. Yoeli's analysis would conclude that the 217 area code, which is associated with Illinois, found an "Any State" match because Illinois is one of the two states. However, there is no evidence that the call was taken in Illinois rather than Pennsylvania.[56]

60. Dr. Yoeli's "Any State" methodology aggressively assigns states in his favor. This approach is not reasonable and does not "provide further evidence" of anything.

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[56] I note that this call is a lead call that appears to have been placed to a customer with active service. This inconsistency between call type and location begin and end dates further calls into question the assignment of a state to this record.

VII. DR. YOELI'S SIMPLISTIC "ALL STATE" METHODOLOGY ALSO IMPROPERLY ASSIGNS ADDRESSES TO CALLS

61. Unlike his "Any State" methodology, Dr. Yoeli's "All State" methodology requires that the state identified in the Produced Address Data match to the area code in all records across all datasets.[57] However, his approach to identifying matches is overly simplistic and fails to consider nuances of the data sources and call types, as discussed in Section V. Both the data source and the call type provide valuable information about the reliability and relevance of a potential match between address and Call Record for determining whether the address represented the physical location of the call at the time of the call. Dr. Yoeli has failed to consider either issue. Instead, Dr. Yoeli has assigned the same level of confidence to all of his matches in an overly simplistic analysis.

62. Further, he has thrown out potentially valuable information by imposing his overly simplistic date restrictions. As I discussed briefly in Section V.B, and in more detail below, some call types such as winbacks and cold calls are intended to occur outside the period of active service, and therefore may be logically associated with service address data even if the Call Record did not occur during the period of active service. However, Dr. Yoeli discards matches between service address data and Call Records unless the Call Record date is during the period of active service, thus discarding potentially valuable information. In some cases, he disregards potential contradictory evidence and thus categorizes Call Records with associated states in his "All State" method when other evidence suggests these Call Records may not have been associated with that state.

63. **Exhibit 9.A** contains an example of a winback call where Dr. Yoeli ignores the Customer Account data in favor of Other DISH Internal data. Dr. Yoeli's "All State" Ohio match is based only on data from Set 6 (SalesComm) and Set 9 (PODS). He ignores the Customer Account Data, which indicate that the phone number was associated with an address in Michigan. In particular, the Set 1A and Set 6 data sources' last dates prior to the call date were within days of each other, but Dr. Yoeli values the Set 6 information without

57 Cases where there are multiple addresses, even within the same state, also raise concerns regarding the reliability of the address information. Dr. Yoeli does not consider whether the actual address, including city and zip code, differs across records or sources. He is only concerned with the state associated with the records. See Yoeli 2016 Report, p. 5.

considering the Set 1A information, simply because the customer account was not associated with an active address at the time of the call.

64. Similarly, **Exhibit 9.B** contains an example where Dr. Yoeli classifies the phone number as being associated with California using his “All State” methodology, when data with dates closer to the call date indicate the phone number was associated with Colorado. The phone number appears in the Customer Account Data associated with California from 2001 to 2004 and with Colorado from 2004 to 2007. The phone number also appears in the Set 6 (SalesComm) data associated with California as of 2001 and the Set 9 (PODS) data associated with California with no date. Because the call date is in 2008, after all of the Customer Account Data end dates, Dr. Yoeli discards all of the Customer Account Data in favor of the Set 6 and Set 9 data, which do not have populated end dates, and classifies the phone number as being associated with California.

65. In other cases, he may disregard information that could have moved a Call Record from having no address information, to having address information. **Exhibit 10** contains an inquiry Call Record with a call date of May 2009, followed by a new service address in November of 2009. Dr. Yoeli does not classify this record in either his “All State” or “Any State” methodologies; he considered it not to have any address data. However, had he considered data surrounding the call date, he would have found that the call did have some associated address data that would have offered additional information. In this case, despite the California area code, the address data indicate that this phone number was associated with South Carolina within a few months of the call date.

66. While Dr. Yoeli did not consider the difference between address sources and call types, I have considered these issues and reviewed the Produced Address Data accordingly. In this section, I categorize the Call Records based on both potential address matches and on the intersection between data sources and call types. I refer to these categories as Group A through Group I. **Exhibit 11** contains a summary of the number of calls in each Group, for each of the seven call sets.[58]

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[58] Note that this exhibit summarizes the Call Records as seven separate call sets, consistent with Dr. Yoeli’s presentation, without accounting for the duplicate records discussed in FN 15, above.

A. **Group A**

67. Group A contains calls intended for active customers with an associated active service address and no contradicting active service addresses at the time of the call.

68. The Customer Account Data include addresses for DISH customers with associated "location begin" and "location end" dates for the address entry. While Dr. Yoeli considers the dates provided in these data in his analysis, he ignores the meaning of the dates and the potential discrepancies between the call type and the beginning and end dates. Specifically, Dr. Yoeli considers an address in the Customer Account Data as matching a Call Record if the call was placed between the beginning and end dates. For calls placed prior to the beginning date, or after the end date, Dr. Yoeli does not consider the address to be a match.

69. I agree with Dr. Yoeli that, all else equal, a contemporaneous address is more reliable than an address that is dated before or after the call. However, all else is not equal and Dr. Yoeli's simplistic treatment of dates in the Customer Account Data ignores the purpose of the DISH calls. As I discussed above, DISH places calls intended for three types of customers: (1) active customers; (2) potential future customers; and (3) former customers. Of these three groups, only calls intended for active customers would be expected to match with active service addresses at the time of the call. One would not expect calls intended for potential future or former customers to match active service addresses at the time of the call.[59]

70. As discussed in Section V.B, there are five categories of calls in the Call Records that were intended for active customers: (1) Upsells; (2) Future Disconnects; (3) Non-Telemarketing Calls; (4) AutoMessage calls; and (5) Work Orders.[60] One would expect, therefore, that these calls would correspond to records in the Customer Account Data. If there is no conflicting alternate service address associated with the phone number in

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[59] I understand that customer accounts may be assigned prior to the start of service and that some calls, such as Work Order calls, may be placed during the period between the assignment of the Account Number and the start of service. All "potential future" customer calls addressed in this report are limited to calls to customers who have not signed up for DISH service and thus would not be expected to have associated Account Numbers at the time of the call.

[60] It is my understanding that counsel for DISH argues that non-telemarketing calls or calls intended for active customers are not violations.

question that was also active at the time of the call, this information provides additional support that the call was placed to a phone number associated with the address found in the Customer Account Data at the time of the call.[61]

71. **Exhibits 12-16** contain examples for each of the five types of call, where the call was placed during the time the customer had active service.

72. I note that the state associated with the area code is not always the same state associated with the address and the area code would not be a good proxy for the state. For example, **Exhibit 17** contains a Call Record associated with a phone number with a 213 area code. The 213 area code is associated with California, but the Customer Account Data associate an address in Idaho with this phone number.

73. For calls of Group A, the Produced Address Data may provide further evidence about a phone number and an address having been associated with each other at the time of the call.

B. Group B

74. Group B contains calls associated with inquiry campaigns with an associated lead in the Lead Tracking System data prior to the call and an associated service address starting after the call, both in the same state.

75. In addition to calls targeted to active customers, DISH makes outbound calls to potential future customers in the form of leads, opt-ins, and cold calls. These calls have a different expected relationship with the service data from calls to active customers. While not all calls to potential future customers will successfully convert to customers, those that do convert would be expected to have associated addresses with "begin" dates after the date of the Call Record. In the case of leads, there is one additional source of potential address information: Sets 2-3 contain data from DISH's Lead Tracking Systems.

[61] Note that, because the billing records in the Set 1A Customer Account Data present date-inconsistency with the service records, I have excluded billing records from this analysis. In some cases, a customer may receive a bill in one location for service in another location (for example, if someone pays for an elderly relative's service). The phone number associated with the account may be the billing phone number or the service phone number. My analysis is conservative in that I do not count contradictions between billing and service records as contradictions for calls to active customers.

76. If a lead appears in one of the Lead Tracking System sets, followed by a lead call, followed by an active service address, *and the service address state and the lead address state match each other*, then this Call Record is classified as Group B. **Exhibit 18** contains an example of this case. This customer, Peter Piasecki, appears with a lead in the Lead Tracking System dated December 5, 2008. DISH then placed an inquiry call following up on this lead on December 16, 2008. Mr. Piasecki then appears to have signed up for DISH service as of March 2009. Both the lead information prior to the call, and the service addresses following the call, indicate that Mr. Piasecki lived in Manteca, California.

77. For calls of Group B, the Produced Address Data may provide further evidence about a phone number and an address having been associated with each other at the time of the call.

C. Group C

78. Group C includes calls on winback campaigns with an associated service address ending prior to the call, and another associated service address starting after the call, both in the same state.

79. DISH also makes calls to former DISH customers. Specifically, DISH makes winback calls intended to "win back" former customers. These calls have a different expected relationship with the service data from the active customer calls and the potential future customer calls. One would expect winback calls to follow the "end" date of a service address. In some cases a winback may successfully convert into a renewed customer: in those cases, one would expect another "begin" date following the call, indicating the new service. If a winback call is placed between the "end" date of one service record and the "begin" date of another service record, and *both records have the same address state*, then this Call Record is classified as Group C. **Exhibit 19** contains an example of this case. This phone number was associated with Linda Perigo at an address in Los Angeles, California from May 2001 to April 2007. The phone number was subsequently called on

a winback campaign in December 2008.[62] Ms. Perigo is then re-associated with this phone number at the same address in September 2011. The information prior to the call and following the call both list the same customer at the same address.[63]

80. For calls of Group C, the Produced Address Data may provide further evidence about a phone number and an address having been associated with each other at the time of the call.

D. Group D

81. Group D includes calls intended for potential future customers (leads, cold calls, and opt-ins) with an associated service address *starting after* the Call Record and calls intended for former customers (winbacks) with an associated service address *ending before* the Call Record and no contradictory state information in other sources.

82. As discussed above, Groups B and C include calls intended for potential future customers and calls intended for former customers where the service address dates related logically to the call type and there was corroborating address information. Group D contains calls intended for potential future customers and calls intended for former customers that do *not* have additional logical corroborating information. This includes leads with future-dated service addresses but without a corresponding lead in the Lead Tracking System dataset, as well as all opt-in and cold calls with future-dated service addresses. It also includes winbacks with past-dated service addresses without corresponding future-dated service addresses.

83. Because the addresses associated with calls in Group D are not "active" in the service data at the time of the Call Record, there is uncertainty about whether the customer lived at that address at the time of the call. For example, customers who move will likely disconnect their DISH service, and may then be placed on winback call lists, but the new address would not be in DISH's records. While the address in question can be associated

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[62] I note that this winback campaign is a 22-month campaign, but that the location end date was only 20 months prior to the call.

[63] In other cases, a winback call might similarly be placed between two active periods in the Customer Account Data, but with different associated states. In these cases, it would not be possible to determine when the customer moved from State 1 to State 2. These cases are not included in Group C.

with the phone number *at some point in time* it is not clear that it was associated with the phone number at the time of the call.

84. **Exhibit 20** contains an example of a Call Record associated with a 20-month winback campaign, dialed 20 months after the end date associated with the service address. **Exhibit 21** contains an example of a cold call 17 months prior to the begin date associated with the service address.[64] Both of these Call Records are logically associated with the service address dates but, because the service addresses were not active at the time of the call, there remains uncertainty about the address at the time of the call.

85. For calls of Group D, the Produced Address Data provide limited evidence about a phone number and an address having been associated with each other *at some point in time*. The data do not, however, provide further evidence that the phone number and address were associated *at the time of the call.*

E. Group E

86. Group E contains Call Records where there is Customer Account Data associated with a Call Record, but the relationship with the call type is not logical. This includes calls intended for active customers associated with inactive service addresses as well as calls intended for former or potential future customers associated with active service addresses. This also includes "other" call types where the call type cannot be used to draw stronger inferences about data reliability as there is no expected relationship to evaluate.

87. The logical inconsistency between the call type and the dates in the Customer Account Data increases the uncertainty surrounding the associated address. **Exhibit 22** contains an example of a winback associated with an active service address. **Exhibit 23** contains an example of a lead associated with an active service address.

88. For calls of Group E, the Produced Address Data provide limited evidence about a phone number and an address having been associated with each other *at some point in time*.

[64] In this case, because the cold call was so long prior to the start of service, the call may not be directly related to the customer signing up for DISH service.

The data do not, however, provide further evidence that the phone number and address were associated *at the time of the call.*

F. Group F

89. Groups A-E concerned Call Records that matched to records in the Customer Account Data. Group F contains lead calls that are dated after corresponding lead records in the Lead Tracking System data (Sets 2 and 3), but that did not match to records in the Customer Account Data. These Call Records are logically related to a lead record, but the uncertainty surrounding the address is compounded by the lack of reliable data.

90. **Exhibit 24** contains an example of one such lead call. There is a lead record in the Lead Tracking System dated June 27, 2008 associated with a Call Record dated on July 10, 2008. This Call Record relates logically to the date in the Lead Tracking System. However, the general unreliability of the addresses found in the Lead Tracking System data, as well as the intervening time between the date for the lead and the Call Record itself, cause there to be more uncertainty about this record than if there were corresponding subsequent Customer Account Data (i.e., Group B).

91. For calls of Group F, the Produced Address Data provide limited evidence about a phone number and an address having been associated with each other *at some point in time*. The data do not, however, provide further evidence that the phone number and address were associated *at the time of the call.*

G. Group G

92. Group G contains Call Records that have no matches within the Customer Account Data but matched records in Other DISH Internal Data. Aside from lead calls associated with Lead Tracking System data, there are no expected relationships between call types and the Other DISH Internal Data.

93. **Exhibits 25-26** include examples of Call Records that matched only with Other DISH Internal Data. **Exhibit 25** shows a lead call. This lead call did not match to any leads in the Lead Tracking Systems, nor to the Customer Account Data. It did match to two different customers with California addresses in the Set 6 (SalesComm) data. The Call Record is dated in 2008 and the two customers are listed as being associated with

different addresses, one in 1999 and one in 2002. There is no additional information regarding any addresses for this phone number in the intervening 5+ years. Similarly, **Exhibit 26** contains a work order call from June 2008. This phone number was associated with two records associated with Debrah Whitson: one record in Set 2 (Lead Tracking System), dated in October 2010, more than two years after the call, and one record in Set 9 (PODS) with no associated date. There is no way to confirm the physical location of the phone number (or even as to whether Debrah Whitson was associated with the phone number) as of June 2008 (the date of the call).

94. For calls of Group G, the Produced Address Data provide limited evidence about a phone number and an address having been associated with each other *at some point in time*. The data do not, however, provide further evidence that the phone number and address were associated *at the time of the call.*

H. Group H

95. Group H includes calls for which there is contradictory evidence about the address of the call across or within the DISH data, considering both the DISH Customer Account Data and the Other DISH Internal Data. A contradiction is defined as a phone number for which more than one state is included in the Produced Address Data without sufficient information from the call date and call types to reconcile these inconsistencies.[65]

96. **Exhibits 27-28** include examples of Call Records with inconsistencies across or within the Produced Address Data. **Exhibit 27** shows a phone number appearing in the Customer Account Data associated with four customer accounts and three states. Three customers (Dinana Wu in California, Hollis Rychlewski in New York, and Cynthia Best in New York) have active associated service addresses at the time of the call. Mary LaPierre is also listed with an active service address in New Jersey, but the "secondary phone start date" indicates the phone number may not have been associated with her at the time of the call.

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[65] Calls intended for active customers with associated addresses in the Customer Account Data at the time of the call were excluded from consideration. Therefore, even if there is inconsistent address information available from Other DISH Internal Data, no such Call Records are included in Group H.

97. **Exhibit 28** shows a phone number associated with California in the Customer Account Data but with Mississippi in the Lead Tracking System data. In this case, the lead in the Lead Tracking System is dated one month prior to the call, while the Customer Account Data have a begin date of several years after the call. However, it is not clear when the customer moved from Mississippi to California: it could have been at any point in time between 2008 and 2015. In fact, the lead record in the Lead Tracking System is not listed with an associated customer name, so the two records may not even relate to the same customer.

98. For calls of Group H, the Produced Address Data provide limited evidence about a phone number and an address having been associated with each other *at some point in time*. The data do not, however, provide further evidence that the phone number and address were associated *at the time of the call*.[66]

I. Group I

99. Group I includes calls for which the only source of address data are the External Data. As I discussed in Section V.A.3, the External Data are fundamentally unreliable for the purpose of determining the physical locations of phone numbers dialed by DISH. A vital source of information when reviewing the reliability of addresses in the DISH data is the relationship between the call type and the address information and customer classification per the DISH data. With external data, regardless of the source, there is no ability to validate data based on the call type because the data, including the date variables, were created and maintained by a third party not affiliated with the calls. Further, a review of the TransUnion and Speedeon data reveals internal inconsistencies and incomplete records.[67]

100. For calls of Group I, the Produced Address Data provide limited evidence about a phone number and an address having been associated with each other *at some point in time*.

[66] While additional research on any given phone number may help resolve some of these apparent contradictions, such research would need to be conducted on a number by number basis and may require direct inquiry with the individuals associated with any given number.

[67] **Exhibits 4.A-4.C** and **5A.-5.C**, discussed in Section V.A.3, provide several examples of this phenomenon.

The data do not, however, provide further evidence that the phone number and address were associated *at the time of the call.*

101. In summary, Dr. Yoeli improperly lumps all of these distinct Groups (A – I) into one analysis, without considering the underlying reliability, or lack thereof, of each Group.

VIII. DR. YOELI'S METHODOLOGY HAS NO BEARING ON RETAILER CALLS

102. Dr. Yoeli claims that his analysis "provide[s] further evidence" regarding both "Dish's and its retailers' calls".[68] However, his analysis has no bearing on retailer calls. The State Plaintiffs requested address information for 5,138,153 Call Records.[69] All of these Call Records represent outbound calls placed by DISH. I understand that the State Plaintiffs are also seeking damages for millions of calls made by DISH retailers Star Satellite (also known as Tenaya), JSR, and SSN.[70] The vast majority of the calls the State Plaintiffs are seeking damages for in this case were calls placed by DISH *retailers*.

A. Retailer Testimony Indicates Retailer Calling Practices Were Systematically Different from DISH Calling Practices

103. As I discussed in Section V.B, DISH conducts many of its calls to active DISH customers. In contrast, DISH's retailers are focused on signing potential customers up for DISH service and thus are not likely to intentionally call active DISH customers.

104. Unlike DISH, DISH's retailers testified that they focused their businesses on signing up new customers, using techniques such as auto-dialers and cold-calling. Walter Eric Myers, founder of former DISH retailer Star Satellite, testified that "during an experimental period I'm pretty sure [one employee, Brian Smith] just called like right out of the phone book."[71] Similarly, Kevin Baker testified that his company Guardian generated leads for Star Satellite "off of a CD-Rom you could buy down at Office Max."[72]

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68 Yoeli 2016 Report, p. 6.

69 As I discussed in Section III, the Call Records in some of the seven call sets overlap with each other. Thus, this does not represent a unique count of the number of *calls* made by DISH.

70 State Plaintiffs' Conclusions of Law, p. 11. Count V includes JSR and SSN, p. 15; Count VI includes Star Satellite, p. 19; Count VII includes JSR and SSN, p. 26; Count VIII includes Star Satellite, p. 31; Count IX includes Star Satellite, JSR, and SSN, p. 38; Count X includes Star Satellite, p. 40.

71 Deposition of Walter Eric Myers ("Myers Deposition"), Tenaya, February 24, 2012, *USA v. DISH*, p. 124.

72 Deposition of Kevin Baker ("Baker Deposition"), Guardian, May 14, 2012, *USA v. DISH*, p. 50.

105. Richard Goodale, co-founder of former DISH retailer JSR, testified "for example, I remember when Lifetime Movie Channel was taken off a certain network. El Paso, certain cities in Texas. So what we did is we loaded up a few million records and then lit up the state of Texas. . . We would pretty much contact every phone number that we had for the State of Texas and invite them to participate in the new HD television experience."[73] Mr. Goodale further testified that buying "15 more autodialers [to] light it up more … gave us another availability to have 1500 more phone lines that we can dial out constantly at 15 hours a day per day. Day in, day out."[74]

106. The retailer practices of indiscriminate cold-calling and lead generation targeted a different population of consumers and used a different process to reach those consumers. Ultimately the processes were intended to reach distinct audiences, as DISH's calls were largely targeted at active or previously active DISH customers. Moreover, the subset of DISH calls with which addresses may be reasonably associated with the recorded phone numbers using DISH internal data is primarily made up of DISH's calls to active customers: precisely the subset of DISH calls least likely to overlap with retailer calls. Only DISH's existing customers are likely to have accurate addresses in DISH's records. Therefore, Dr. Yoeli's attempt to draw inferences about retailer calls based on analysis of DISH's Call Records and internal data is inappropriate. Any analysis of DISH Call Records and DISH internal address data cannot reasonably be extrapolated to DISH's retailers because of the inherent differences in the starting population and target sample.

B. Dr. Yoeli's 2012 Analysis of Retailer Calls Suffers from the same Flaws as His April and June 2015 Analyses

107. Dr. Yoeli's July 2016 report is an effort to support his previous efforts to conclude that DISH retailer calls were made to residential landline numbers in the Plaintiff States based on analyses that Mr. Stauffer conducted using PossibleNOW data. In order to offer an opinion as to whether the analysis in the Yoeli 2016 Report "provide[s] further evidence that a significant percentage of . . . [DISH's] retailers' calls were made to residential landline numbers associated with the Plaintiff States," I first need to evaluate the previous

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73 Testimony of Richard Goodale ("Goodale Testimony"), JSR, February 2, 2016, *USA v. DISH*, pp. 1878-1879.

74 Goodale Testimony, p. 1882.

evidence upon which Dr. Yoeli relied for that proposition. As I explained in Section III, the State Plaintiffs have withdrawn the April and June 2015 analyses and withdrawn reliance on the January 2016 analysis, due to their recognized inadequacy. The only remaining analysis is the 2012 analysis – which Dr. Yoeli testified to at trial.[75]

108. As I will discuss in this section, the 2012 analysis suffers from the same flaws I had described with his April and June 2015 analyses in my September 2015 Report[76] and the flaws that Mr. Stauffer described at trial for the 2016 analysis.[77,78] Specifically, the 2012 analysis (1) started with an inappropriate starting population of Call Records; (2) was based on deficient PossibleNOW data and the unverifiable and haphazard methods Mr. Stauffer used to classify residential numbers; and (3) reports the "percent residential as a percent of identified numbers"[79] in some cases, based on a biased calculation. As such, all of Dr. Yoeli's previous analyses concerning residential landlines, including the 2012 analysis, are fundamentally flawed and unreliable, and do not provide any reasonable measure of the share of DISH's or its retailers' calls to residential landline numbers in the Plaintiff States.

1. Dr. Yoeli's Population of Calls and the Corresponding Samples from His 2012 Analysis Are not Relevant

109. In his 2012 report, Dr. Yoeli drew samples from six sets of call records: Dish 2003-2007 calls, Dish 2007-2010 calls, and four retailer call sets (JSR, Tenaya, WowTV, and

75 Yoeli Testimony, January 19, 2016, pp. 190-202.

76 Kirk Fair Report, September 15, 2015.

77 Regarding his January 2016 analysis, Mr. Stauffer acknowledged mistakes in his analysis but could not identify the cause ("Q: That's a mistake right? A: Yes, it would be. Q: And as you testify here today you don't know what caused this mistake? A: I do not.") Testimony of Richard A. Stauffer ("Stauffer Testimony"), January 26, 2016, p. 727.

78 Mr. Stauffer testified that he compared his results from his January 2016 analysis to his results from his 2012 analysis to identify whether he had treated "deletes" in 2012 in accordance with his methodology. "The question that had been addressed to us was did the 2012 analysis take into account deletes, because that was the issue that was identified in March." Stauffer Testimony, January 26, 2016, p. 730. However, he admitted that in some cases he flagged records as "Unknown" in 2012 and "Residential" in 2016 and offered that new data may have become available in the intervening time period. Stauffer Testimony, January 26, 2016, pp. 730-733, 783-784.

79 Letter from Jinsook Ohta, Deputy Attorney General of the State of California (for Kamala D. Harris, Attorney General of the State of California) to Peter A. Bicks, Orrick, Herrington & Sutcliffe, LLP, re: "*United States et al. v. Dish Network*, 09-cv-3073-SEM-BGC," April 16, 2015.

Defender).[80] Dr. Yoeli sent these samples to Mr. Stauffer and Mr. Stauffer classified call records in the samples as residential, business, or wireless. Dr. Yoeli then drew inferences about the starting populations based on Mr. Stauffer's results.

110. The call sets from which Dr. Yoeli drew his samples reflected his opinions about the relevant calls as of December 2012.[81] However, it is likely that a substantial portion of those calls are no longer at issue. In fact, Dr. Yoeli testified at trial that "the violations here when this analysis were done were defined in a particular way. And they're not necessarily the same exact underlying call sets as the ones [from his October 2013 analysis] that we were just talking about."[82] He further stated "[t]his analysis was done a long time ago using information that we had at the time. It was an analysis of a set of violations that we had at the time. And the results of this analysis, the exact numbers you see here, are the exact numbers that would be relevant for that set of calls… I am not going to stand in front of you and tell you that these numbers correspond exactly to numbers if you would have pulled call samples from the violations as defined today."[83]

111. I do not have the original datasets from which Dr. Yoeli drew his 2012 samples, nor any code to replicate these samples. However, I do have the sample files that he sent to Mr. Stauffer. Dr. Yoeli sent two samples of the 2007-2010 DISH calls to Mr. Stauffer, totaling approximately 10,000 calls.[84] Only 11% of the Call Records in the sample are among the Call Records requested by the State Plaintiffs; 89% are irrelevant to Dr. Yoeli's current analysis.[85] Even assuming that the subsequent analysis of these samples

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80 I note that Dr. Yoeli did not testify about the Defender or WowTV data sets at trial and I understand they are no longer at issue. Further, the State Plaintiffs are seeking damages for additional retailer calls placed by SSN which are not covered in this analysis and for which I understand there is no residential evidence, due to the withdrawal of Dr. Yoeli's April 2015 and June 2015 opinions and reliance on Mr. Stauffer's 2016 testimony.

81 "Q. Which call sets do these involve? The ones that are representing your demonstrative, which call sets were you working off? A. The violations as defined at the time." Yoeli Testimony, January 20, 2016, p. 388. Dr. Yoeli's analysis in his 2012 report included more than 17 million alleged violations for DISH 2007-2010 calls; millions more than the 5 million for which the State Plaintiffs requested address data. Yoeli December 2012 Report, p. 4.

82 Yoeli Testimony, January 20, 2016, pp. 387-388.

83 Yoeli Testimony, January 20, 2016, pp. 390-391.

84 I understand that "calls0710_sample_1014a.csv" is a revised sample because Dr. Yoeli found that the initial sample, "Calls0710_sample.csv" was "not fully representative of [its] corresponding data [set]." See Yoeli December 2012 Report, FN 7.

85 Of the 10,014 DISH 2007-2010 calls in the samples Dr. Yoeli sent to Mr. Stauffer, 1,082 (10.8%) calls were included in the Call Records for which the State Plaintiffs requested address information.

was relevant and accurate, one cannot draw inferences about a different starting population when nearly 90% of the selected sample is no longer at issue.

112. The samples that Dr. Yoeli extracted for calls DISH's retailers made are similarly based on inappropriate starting call populations. For example, I understand that calls made by JSR after February 14, 2007 are not at issue, because JSR was terminated as a retailer on that date.[86] However, in the JSR sample drawn by Dr. Yoeli, 2,859 (57%) of the records fell after February 14, 2007.[87] As such, one would not expect the sample for JSR to be representative of calls at issue made by that retailer.

113. Again, starting with the wrong population results in a sample that is unlikely to be representative of the appropriate starting population. In my 2015 report, I described the manner in which sampling from an irrelevant population generates results that cannot be used to draw inferences regarding the correct population.[88] If the irrelevant calls were more or less likely than the relevant calls to be made to residential numbers, this would introduce an upward or downward bias in his results.

114. Because Dr. Yoeli sampled from populations that are not currently at issue in this matter, his results cannot be relied upon or extrapolated to relevant populations. Therefore, the results of Dr. Yoeli's 2012 analysis, as with all of his prior analyses related to residential landlines, do not have any bearing on the Call Records in his current analysis nor any call records associated with outbound retailer calls.

2. Mr. Stauffer's Classification Is Based on Deficient Data and Non-Replicable and Inconsistent Methodologies

115. Not only did Dr. Yoeli start with the wrong population for his sample as he did in his 2015 analyses, but Mr. Stauffer's 2012 analysis, on which Dr. Yoeli relied, also suffers from many of the same flaws as Mr. Stauffer's April 2015, June 2015, and January 2016 analyses (see Section III above). First, the PossibleNOW data upon which he relied to identify residential landlines that were active at the time of the call are not suitable for this purpose. Second, as with the prior 2015 analyses, Mr. Stauffer's methodology was

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86 Yoeli Testimony, January 19, 2016, pp. 233-235.
87 See Dr. Yoeli's JSR sample, jsrsample_revised105.csv.
88 Kirk Fair Report, September 15, 2015, FN 35.

non-replicable and inconsistently applied. I briefly describe these flaws below and a more complete description of these types of implementation and methodological flaws can be found in my September 2015 report.

i. The PossibleNOW Data Are Not Suitable for the Purposes Used by Mr. Stauffer

116. As described in detail in my 2015 report, Mr. Stauffer relied upon several data sources from PossibleNOW, including residential, business, and wireless databases for his April and June 2015 analyses,[89] to attempt to identify which of the call records in the samples provided by Dr. Yoeli were made to residential, business, or wireless phone numbers at the time of the call. However, as Mr. Stauffer himself explained, the PossibleNOW data were neither intended nor maintained for this purpose of evaluating historical call records.[90] This is supported by the fact that the different databases housing this information are neither integrated, nor maintained in a way that consistency across the databases can be verified. For example, duplicative or overlapping information for the same number may exist without ever being reconciled. Further, PossibleNOW's databases include faulty records such as "bad dates" for which necessary information is missing, corrupt, or otherwise incorrect.[91]

117. As the PossibleNOW data are not intended to be used to determine the historical status of phone numbers, it is not possible to use those data systematically without making numerous subjective adjustments to account for irregularities and inconsistencies. For

[89] In both his 2012 and 2015 declarations, Mr. Stauffer describes the data maintained by PossibleNOW as containing four databases: a residential database, a business database, a wireless number block database, and a wireless porting database. Stauffer 2012 Declaration, pp. 2-3; Declaration of Rick Stauffer, *USA v. DISH,* March 25, 2015 (hereafter, "Stauffer 2015 Declaration"), p. 4. These databases include the following underlying data sources: residential (*vResidential*, *vResidentialVerizon*, which are combined into the *vDirector* database), business (*vBusiness, vBusinessVerizon*), wireless block identifier databases (*DNCData, vDNCData*), wireless porting databases (*Neustar Data*, *NeustarDataDrop*), and other wireless databases (*TMS_Wireless*). Kirk Fair Report, September 15, 2015, pp. 16-18. I understand that the databases licensed from Verizon were not in use at PossibleNOW prior to July 2014. Stauffer 2015 Deposition, p. 82. Mr. Stauffer did not provide sufficient documentation for me to establish which of the wireless databases he used in his 2012 analysis. Throughout this section I focus on the residential (*vResidential*) and business (*vBusiness*) databases.

[90] "Most of the work we do with [the] historical database, as I mentioned, regards the turnover of households in the past… So that's the primary use that we have for this database. I can't answer for certainty if we've never had the same request, but it's not a typical … request that people want to know." Deposition of Richard A. Stauffer, ("Stauffer 2015 Deposition"), June 10, 2015, *USA v. DISH*, p. 94. I further describe this in my Kirk Fair Report, September 15, 2015, pp. 15-16.

[91] Kirk Fair Report, September 15, 2015, pp. 20-21.

example, **Exhibit 29** provides the residential data for phone number 208-656-9173. According to the PossibleNOW data, the user of the phone number was identified as Brandon Parker in April of 2003, with an associated *TransDate* several years later, in October of 2008. The same phone number was identified as Robert Coray on three separate *TelcoIssueDates* in the intervening period: 7/16/2007, 10/9/2007, and 7/21/2008.[92] It is not clear why the PossibleNOW data would identify two different people who had the same phone number at the same time, or whether the dates were misrecorded. It is also not possible to reliably determine based on these data which (if either) of the users had the number at the time of the at-issue call, or the status of the phone number at the time of the at-issue call.

118. In fact, Mr. Stauffer testified during the January-February 2016 trial that “there’s a lot of flow through of information from the phone companies that is sometimes hard to understand. It doesn’t make sense. And we attempt to trap that with algorithms to filter out the bad data, but it’s not always a hundred percent accurate. We’re not always able to get them all.”[93] He also explained: “Q. Is it accurate to say that these results do capture the data as they are in your databases, and any error on your part would have been a failure to harmonize the results? A. I believe that’s the case.”[94] This indicates a failure of underlying data in addition to methodology.

119. Furthermore, there are cases where the address information included in the PossibleNOW data is inconsistent with address information included in DISH’s Customer Account Data. For example, **Exhibit 19**, discussed above, contained an example of a winback call placed in December 2008 that was “won back” (i.e., the customer renewed DISH service). According to DISH’s Customer Account Data, the same customer, Linda Perigo, lived at the same address both from 2001-2007 and from 2011 onward. However, **Exhibit 30** shows the PossibleNOW data associated with this same phone number, which purports to show that the phone number was owned by Jerry Lee Henson EA Tax Service

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92 Mr. Stauffer has indicated that the *TelcoIssueDate* represents when the phone number was assigned to the person, while the *TransDate* indicates a sequence of updates in the database. Stauffer Testimony, January 21, 2016, p. 34.

93 Stauffer Testimony, January 26, 2016, pp. 776-777.

94 Stauffer Testimony, January 26, 2016, p. 776.

at a different address from 2008 to 2012. Similarly, **Exhibit 27** contained an example where the DISH Customer Account Data listed multiple active service addresses at the same time. **Exhibit 31** shows the PossibleNOW data associated with this same phone number. The PossibleNOW data do not list any of the DISH customers and instead associated the number with three additional people and a business.

120. These inconsistencies and irregularities of the PossibleNOW data further illustrate that these data are an unreliable source for identifying residential phone numbers on a given date in the past. As Mr. Stauffer testified and as my prior report demonstrated, they are simply not prepared or maintained for those purposes.

ii. Mr. Stauffer's 2012 Methodology Was Non-Replicable and Inconsistently Applied

121. According to Mr. Stauffer, he attempted to match the phone numbers contained in the samples that he received from Dr. Yoeli to phone numbers contained in the PossibleNOW data to determine whether the phone number was associated with a residential landline that was active at the time of the at-issue call. Specifically, he explained his 2012 methodology as follows:

> Each phone number/date pair was analyzed against [the residential, business, wireless block, and wireless-to-landline/landline-to-wireless Neustar] databases. If a number being analyzed matched a number in the historical database and the last transaction in the historical database before the date provided was an inserted record (with no subsequent deletion before the date provided), the record was flagged as being active in that database at that time. If there was no match, or if the last transaction for that number prior to the date provided was a deletion, the number would not be flagged as having been active in that database at that time.[95,96]

122. Mr. Stauffer relied heavily on three variables from the PossibleNOW residential data, in addition to phone numbers: *TelcoIssueDate*, *TransDate*, and *XactnCod*. According to Mr. Stauffer, the *TelcoIssueDate* is "the date a number was first assigned to a party";[97] the *TransDate* is "any kind of modification to the record, but it's not a change to a

95 I note that, unlike his 2015 and 2016 methodologies, in this case Mr. Stauffer allows for a number to be classified in more than one way, i.e., residential and business, residential and wireless, or business and wireless.

96 Stauffer 2012 Declaration, p. 3.

97 Stauffer Testimony, January 21, 2016, p. 34.

different household, it's just an update to the record";[98] and the *XactnCod* represents an insertion or deletion of information from the database, "when a record is updated or modified associated with the same party over time."[99]

123. At his 2012 deposition, he explained that he sorted the data for a given phone number based on the *TelcoIssueDate* "to indicate the sequence of events for this phone number, and then we look at the name and address field to determine if it's changed hands by both of those criteria. Then we compare with the date of the do-not-call request and see if that transition took place after the DNC request; if so, we say yes, that is turned over."[100]

124. Thus, according to Mr. Stauffer, if the last transaction prior to the call date (as defined by the combination of *TelcoIssueDate* and *TransDate*) in the call record for a given phone number contained an "insert," Mr. Stauffer would label that phone number as active in the residential database at the time of the call. If the last transaction prior to the call date was a "delete," Mr. Stauffer would not have labeled that phone number as residential, due to it not being active in the residential database at that time.

125. However, as with his 2015 analyses, Mr. Stauffer's methodology was applied haphazardly and inconsistently. In particular, his 2012 analysis is inconsistent at least with respect to the following: (1) the treatment of "deletes" prior to the call; (2) the treatment of "inserts" and "deletes" on the same day; and (3) the use of the transaction date variable, *TransDate*. As such, I have not been able to replicate his analysis.

a) Mr. Stauffer's 2012 Methodology Was Inconsistent in Its Treatment of "Deletes"

126. As I discussed in my 2015 report, Mr. Stauffer's April and June 2015 analyses failed to treat "deletes" consistently with how he described his methodology.[101] The same is true of Mr. Stauffer's 2012 analysis.

127. **Exhibit 32.A** contains an example where, consistent with his stated methodology, Mr. Stauffer classified a call occurring after a "delete" as non-residential. In this example, the

98 Stauffer Testimony, January 21, 2016, pp. 34-35.
99 Stauffer Testimony, January 21, 2016, p. 17.
100 Deposition of Rick Stauffer (hereafter, "Stauffer 2012 Deposition"), *USA v. DISH*, November 28, 2012, p. 336.
101 Kirk Fair Report, September 15, 2015, pp. 24-26.

customer B. Hagler is associated with a deleted record with a *TelcoIssueDate* of July 9, 2008 and a *TransDate* of July 20, 2009. Because there is no subsequent insert prior to the September 30, 2009 call date, Mr. Stauffer classifies the number as non-residential. In contrast, **Exhibit 32.B** shows a case where Mr. Stauffer did not classify a call occurring after a "delete" as non-residential. In this case, the "last" record before the October 19, 2009 call date is a "delete" with a *TransDate* of September 2, 2009. Nonetheless, Mr. Stauffer labeled this record residential.

128. Throughout his analyses, Mr. Stauffer has consistently failed to treat deleted records in line with his stated methodology. His 2012 analysis is no exception. Not only did he fail to implement his methodology as described, but he appears to have implemented it inconsistently across records.

b) Mr. Stauffer's 2012 Methodology Was Inconsistent in Its Treatment of "Inserts" and "Deletes" on the Same Day

129. The PossibleNOW residential data contain several cases where a record may be inserted and deleted on the same day. Mr. Stauffer's stated methodology has never addressed how he would treat these records, despite the fact that he is aware of this phenomenon within his data. During his trial testimony, when presented with inconsistent classifications generated by his own January 2016 results, he suggested that one possible cause for this inconsistency might be the treatment of inserts and deletes on the same day.[102]

130. In fact, his results indicate that he treated such cases inconsistently in his 2012 analysis as well. **Exhibits 33.A** and **33.B** contain examples where the PossibleNOW data contain an "insert" and a "delete" on the same day for the "last" record prior to the call date. In **Exhibit 33.A**, Mr. Stauffer treated the phone number as residential, while in **Exhibit 33.B** he treated it as non-residential. Based on the PossibleNOW data, it is not clear which treatment would be more appropriate, but it is clear that Mr. Stauffer should have

[102] "Q: So when you say that these results, these seemingly inconsistent results reflect the information that you had in your databases, how would that be an error on your part? Or PossibleNOW's part? A: … If you look at the data often you'll see there can be a lot of inserts and deletes on the same day. And it's possible our algorithm didn't treat that properly in this case." Stauffer Testimony, January 26, 2016, pp. 775-776.

employed a consistent methodology to account for this situation. Instead, Mr. Stauffer treats them inconsistently, including or excluding records from his analysis seemingly at random.

c) Mr. Stauffer's 2012 Methodology Was Inconsistent in Its Use of *TransDate*

131. As described above, Mr. Stauffer explained in his testimony, "… we pulled all of the historical transactions related to [a single] phone number and attempted to find the last transaction prior to the call date and identify who had that record at that time…."[103] In assessing Mr. Stauffer's application of his stated methodology, I found that he did not consistently apply his approach for evaluating transaction dates (the *TransDate* variable).

132. In some cases, Mr. Stauffer has classified records as residential when there are no *TransDate* records prior to the call date. For example, in **Exhibit 34,** Mr. Stauffer classified the phone number 315-639-3296 as an active residential number at the time of the call, despite the fact that all *TransDate* values occurred between 2006 and 2012, well after the call date on December 12, 2003.[104] Per Mr. Stauffer's methodology, this phone number should not have been treated as active in the residential database as a *TransDate* did not exist prior to the call date.

133. As Mr. Stauffer applied his stated methodology inconsistently and unsystematically, it is not surprising that I have not been able to replicate the results of his 2012 analysis. Coupled with the fact that he relies on deficient PossibleNOW data, the inconsistencies and unsystematic nature of Mr. Stauffer's methodology further demonstrate the unreliability of his results.

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103 Stauffer Testimony, January 21, 2016, p. 33. Mr. Stauffer also stated specifically in his 2012 deposition, "Q: And where numbers fell outside those ranges in each one of the residential, business, or wireless databases, is that how they turned out as I forget what you called them but unknown numbers? A: If we didn't have it in the database at all, it would be unmatched. If it didn't meet those criteria, it would be unflagged. So in either case, it would not be indicated as flagged at that time." Stauffer Deposition, November 28, 2012, pp. 343-344.

104 I note that some of the *TransDate* values occur after the date on which Mr. Stauffer conducted his analysis.

3. Dr. Yoeli's Calculation of the Percent Residential as a Percent of Identified Numbers Is Biased

134. Table 3 of Dr. Yoeli's 2012 report presents "estimates of the percent of violations to residential numbers."[105] This table contains estimates computed using two different methods. As I described in my 2015 report;

> Dr. Yoeli deals with Mr. Stauffer's unknown numbers in his Return Files (from both the April and June Analysis) in two different manners when estimating his share of residential numbers within the Yoeli Call Sets. In his first method, Dr. Yoeli calculates the percentage of calls to residential landlines as a percent of all sampled calls, including calls which Mr. Stauffer could not classify as residential, business, or wireless. In his second method, Dr. Yoeli calculates the percentage of calls to "residential landline numbers as a percent of identified numbers," excluding calls that Mr. Stauffer was unable to classify.[106]

135. In my earlier report, I explained that Dr. Yoeli's second calculation is biased and misinterprets Mr. Stauffer's reports.[107] Specifically, his calculation makes the implicit assumption that "the unknown phone numbers have the same underlying distribution of residential, business, and wireless phone numbers as the classified numbers"[108] or, as Dr. Yoeli put it, "the percentage doesn't change."[109] There is no way to verify whether the unknown numbers would have the same underlying distribution of residential, business, and wireless numbers as the classified set. In fact, Dr. Yoeli testified at trial that "I don't want to make that assumption. I don't know what those unidentified calls look like. It's not my expertise."[110]

136. While the calls that are not included in PossibleNOW's databases may not be Dr. Yoeli's expertise, Mr. Stauffer has claimed that they are his area of expertise. Mr. Stauffer has testified that these numbers consist of non-published numbers, inactive numbers, business Direct Inward Dialing numbers, voice over IP numbers, and government numbers.[111] In fact, it is likely that numbers Mr. Stauffer could not identify differ systematically from

105 Yoeli December 2012 Report, p. 9.
106 Kirk Fair Report, September 15, 2015, p. 33.
107 Kirk Fair Report, September 15, 2015, pp. 33-34.
108 Kirk Fair Report, September 15, 2015, p. 33.
109 Yoeli Testimony, January 20, 2016, p. 411.
110 Yoeli Testimony, January 20, 2016, p. 411.
111 Stauffer 2015 Declaration, p. 5; Stauffer 2015 Deposition, June 10, 2015, pp. 172-173.

those he could. The alternate assumption, that PossibleNOW's databases happen to be missing some equal portion of residential, business, and wireless phone numbers, is unlikely. If this unlikely assumption were true, it would only further call into question the reliability of the PossibleNOW data for this purpose.

137. Dr. Yoeli's "percent of identified calls" estimates overstate the percentage of residential numbers as identified by Mr. Stauffer due to this biased implicit assumption.

138. It is inappropriate for Dr. Yoeli to conclude anything regarding retailer calls in his current report. He appears to be attempting to extrapolate results from his only standing analysis, his 2012 analysis. This analysis is related to an entirely different set of call records and cannot, even assuming the analysis was accurate for its own starting population, be applied to the population of DISH calls considered in his July 2016 analysis or the population of retailer calls being sought by the State Plaintiffs. Furthermore, the 2012 analysis suffers from the same flaws that I identified in Mr. Stauffer's and Dr. Yoeli's 2015 analyses, which contributed to the State Plaintiffs withdrawing the April and June 2015 analyses.

139. Each and all of the flaws discussed above – the unrepresentativeness of the samples extracted by Dr. Yoeli, the inability of the PossibleNOW data to accurately identify the historical status and type of phone numbers results, the unverifiable and haphazard methods that Mr. Stauffer used to classify residential numbers, and the biased calculations reported by Dr. Yoeli – render the 2012 analysis fundamentally flawed and unreliable. Therefore, contrary to Dr. Yoeli's conclusions in his July 2016 report, he does not have any reasonable measure of the share of DISH's or its retailers' calls to residential landline numbers in the Plaintiff States.

IX. CONCLUSION

140. Dr. Yoeli's analyses (including both the 2012 and July 2016 analyses) do not support his conclusion that his analysis "provide[s] further evidence that a significant percentage of

Dish's and its retailers' calls were made to residential landline numbers associated with the Plaintiff States."[112]

141. First, his July 2016 analysis does not consider the varied reliability and purpose of the data used to match phone numbers to addresses. He unreasonably combines all data sources, ignores call types, and treats all similarly labeled dates as equally reliable. His "Any State" method systematically assigns calls to the Plaintiff States in cases where his own analysis highlights that the address associated with a phone number cannot be determined with certainty.

142. Second, his analysis has no bearing on retailer calls. Retailers have different calling practices than DISH and it is unreasonable to extrapolate an analysis to the population of retailer call records based on DISH calls to its active, former, or future customers.

143. Third, his July 2016 analysis has no bearing on residential landline calls made by DISH or its retailers, and all prior analyses conducted by Dr. Yoeli and Mr. Stauffer with respect to residential landlines are flawed, including those from the 2012 reports.

144. I have reviewed the Produced Address Data and determined that some Call Records can be associated with an address at the time of the call. However, even these Call Records provide no conclusive information about whether any given call at issue was made to a residential landline, nor do they provide any information regarding calls made by DISH retailers.

Rebecca Kirk Fair
September 15, 2016

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[112] Yoeli 2016 Report, p. 6.

Exhibit 1
Multiple Active Service Addresses

phone_number	call_date	campaign
2535365785	2/21/2008	5186_08W08_LTS_OTM_ENGLISH_20080219

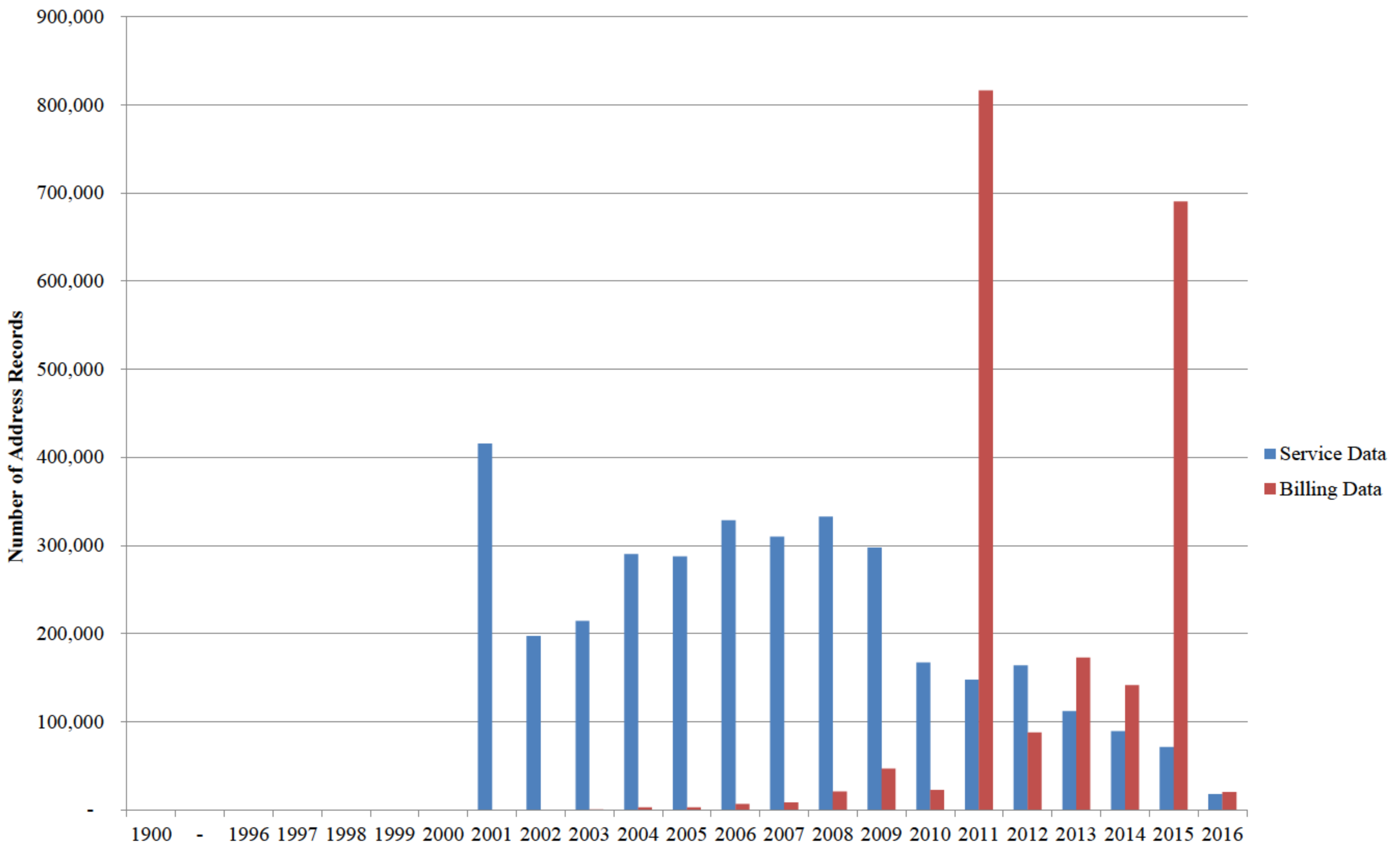
Set 1A

phone_number	location_begin_dt	location_end_dt	pr_phone_bgn_dt	pr_phone_end_dt	sec_phone_bgn_dt	sec_phone_end_dt	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
2535365785	3/18/2001	11/3/2004					8255909480699240	SCHNEIDER,SCOTT & SHIRA	Service	7622 139TH STREET CT E		PUYALLUP	WA	98373-5305
2535365785	7/30/2004	10/15/2004					8255909480699240	SCHNEIDER,SCOTT & SHIRA	Service	7622 139TH STREET CT E		SOUTH HILL	WA	98373-5305
2535365785	11/4/2004	12/31/2199					8255909480699240	SCHNEIDER,SCOTT & SHIRA	Service	11221 AVOCET LN APT 104		RALEIGH	NC	27617-8468
2535365785	4/16/2005	8/6/2006	4/16/2005	12/31/2199			8255909485071650	UNDERWOOD,DEBBIE	Service	1007 110TH STREET CT E APT	A8	TACOMA	WA	98445-3852
2535365785	8/7/2006	8/11/2006	4/16/2005	12/31/2199			8255909485071650	UNDERWOOD,DEBBIE	Service	816 100TH CT EAST	APT201	TACOMA	WA	98445-0000
2535365785	8/12/2006	8/13/2006	4/16/2005	12/31/2199			8255909485071650	UNDERWOOD,DEBBIE	Service	816 100TH STREET CT E APT	201	TACOMA	WA	98445-6625
2535365785	8/14/2006	2/18/2008	4/16/2005	12/31/2199			8255909485071650	UNDERWOOD,DEBBIE	Service	801 101ST ST E APT 201		TACOMA	WA	98445-6623
2535365785	6/21/2007	12/31/2199	11/26/2007	12/31/2199	11/26/2007	12/31/2199	8255909487232350	BROUSSARD,PAMELAJ	Service	801 101ST ST E APT 202		TACOMA	WA	98445-6623
2535365785	7/6/2011	12/31/2199					8255909480699240	SCHNEIDER,SCOTT & SHIRA	Billing	11221 AVOCET LN APT 104		RALEIGH	NC	27617-8468
2535365785	9/27/2011	12/31/2199	4/16/2005	12/31/2199			8255909485071650	UNDERWOOD,DEBBIE	Billing	801 101ST ST E APT 201		TACOMA	WA	98445-6623
2535365785	11/7/2014	12/31/2199	11/26/2007	12/31/2199	11/26/2007	12/31/2199	8255909487232350	BROUSSARD,PAMELAJ	Billing	801 101ST ST E APT 201		TACOMA	WA	98445-6623

Note:
[1] This exhibit shows all Customer Account billing and service records associated with one phone number. Records highlighted in gray indicate records that Dr.Yoeli considered in his analysis.

Source:
[1] Set 1A - Inquiry (DTX907).

Exhibit 2
Histogram of "Location Begin Date" Year in Set 1A



Note:
[1] Call Records with missing dates are not included.

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Exhibit 3
Call Record With Many Associated Address Records

phone_number	call_date	campaign
5596588696	6/20/2008	5378_08W24_LTS_OTM_ENGLISH_20080610

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_phone_bgn_dt	pr_phone_end_dt	sec_phone_bgn_dt	sec_phone_end_dt	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
5596588696	3/18/2001	12/14/2001	2/2/2000	12/31/2199			8255909053233660	REID,TERRY & DOLORES	Service	32370 CHICKASAW RD		COARSEGOLD	CA	93614-9721
5596588696	3/18/2001	4/10/2002					8255909330934910	FARROW,JUDITH	Service	39 EDMUNDS LN		WALDEN	NY	12586-1538
5596588696	3/18/2001	5/27/2002			11/20/2012	10/23/2014	8255909051268820	GRIGSBY,GARY & LAVERNE	Service	17595 VIERRA CANYON RD	PMB 270	SALINAS	CA	93907-3352
5596588696	3/18/2001	7/19/2002					8255909050000960	CONKLIN,RALPH & LILA	Service	45323 PARKSIERRA DRIVE	# 207	COARSEGOLD	CA	93614-9109
5596588696	3/18/2001	9/24/2002	12/21/2008	12/31/2199			8255909052155110	BACON,LARRY	Service	5441 ROYAL OAKS DR		OROVILLE	CA	95966-3835
5596588696	3/18/2001	10/8/2002					8255909051577270	MORRIS,PAM	Service	26090 AUBERRY RD		CLOVIS	CA	93611-9651
5596588696	3/18/2001	10/21/2002			1/2/2013	7/2/2015	8255909050001700	LA MERRILL,JOYCE	Service	45323 PARK SIERRA	#347 B	COARSEGOLD	CA	93614-9109
5596588696	3/18/2001	8/7/2003	9/23/1998	12/31/2199	9/23/1998	12/31/2199	8255909441169680	WAGGONER,N.CLAYTON & GERRI	Service	201 RAINBOW DR # 11086		LIVINGSTON	TX	77399-2001
5596588696	3/18/2001	4/28/2005	9/15/1998	12/31/2199			8255909441147100	SKOMSKI,ADAMAR & PATRICIA	Service	102 RAINBOW DR # 203		LIVINGSTON	TX	77399-1002
5596588696	3/18/2001	11/26/2006	1/23/1998	12/31/2199			8255909440649360	CESSNA,ROBERT&CAROL	Service	106 RAINBOW DR # 639		LIVINGSTON	TX	77399-1006
5596588696	3/18/2001	4/16/2007					8255909380851330	PIERCE,EUGENE& NORMA	Service	56640 MCKENZIE HWY UNIT 23		MC KENZIE BRIDGE	OR	97413-9620
5596588696	3/18/2001	5/19/2008	12/9/2000	12/31/2199			8255909055532040	FAULKNER,KENNETH & SHERRY	Service	45323 PARK SIERRA DR # 552		COARSEGOLD	CA	93614-9109
5596588696	3/18/2001	11/12/2008			12/21/2008	12/31/2199	8255909440437780	CLICK,DOYLE & ADALINE	Service	162 RAINBOW DR APT 6280		LIVINGSTON	TX	77399-1062
5596588696	3/18/2001	9/15/2009					8255909050971040	MORGAN,CAROL	Service	45323 PARK SIERRA DR # 537		COARSEGOLD	CA	93614-9109
5596588696	3/18/2001	5/16/2010					8255909051486780	DORRIS,ROBERT & PATRICIA	Service	45323 PARK SIERRA DR # 113		COARSEGOLD	CA	93614-9109
5596588696	3/18/2001	12/31/2199	3/1/1997	12/31/2199			8255909050302470	NEHRING,ALBERT	Service	45323 PARK SIERRA DR # 218		COARSEGOLD	CA	93614-9109
5596588696	3/18/2001	12/31/2199	9/1/1996	12/31/2199			8255909050396300	KOUDELKA,JAMES	Service	45323 PARK SIERRA DR # 535		COARSEGOLD	CA	93614-9109
5596588696	3/18/2001	12/31/2199	12/1/1997	12/31/2199			8255909050785990	WOOD,JOSEPH & BARBARA	Service	45323 PARK SIERRA DR # 343		COARSEGOLD	CA	93614-9109
5596588696	3/18/2001	12/31/2199	8/14/1998	12/31/2199			8255909051232050	MCMANUS,PATRICIA	Service	45323 PARK SIERRA DR # 208		COARSEGOLD	CA	93614-9109
5596588696	3/18/2001	12/31/2199	6/23/1999	12/31/2199			8255909052342990	FROST,MARY	Service	45323 PARK SIERRA DR # 557		COARSEGOLD	CA	93614-9109
5596588696	3/18/2001	12/31/2199					8255909052654020	ROHRER,ALENE	Service	45323 PARK SIERRA DR # 254		COARSEGOLD	CA	93614-9109
5596588696	3/18/2001	12/31/2199	11/6/1999	12/31/2199			8255909052890560	JACKSON,ROBERT & MYRTLE	Service	45323 PARK SIERRA DR	LOT 547	COARSEGOLD	CA	93614-9109
5596588696	3/18/2001	12/31/2199			11/14/1999	12/31/2199	8255909052925500	MARTIN,FRANK & BARBARA	Service	45323 PARK SIERRA DR # 240		COARSEGOLD	CA	93614-9109
5596588696	3/18/2001	12/31/2199	2/28/2000	12/31/2199			8255909053405330	SPARKS,JAMES	Service	45323 PARK SIERRA DR # 246		COARSEGOLD	CA	93614-9109
5596588696	3/18/2001	12/31/2199			10/9/2000	12/31/2199	8255909055049220	DRAKE,STEVEN & DIANNE	Service	45323 PARK SIERRA DR # 318		COARSEGOLD	CA	93614-9109
5596588696	3/18/2001	12/31/2199	11/17/2000	12/31/2199			8255909055279180	HOGATE,JAMES & MARY	Service	45323 PARK SIERRA DR # 108		COARSEGOLD	CA	93614-9109
5596588696	3/18/2001	12/31/2199	8/1/1999	12/31/2199			8255909130436980	RUDOLPH,JAMES/ELAINE	Service	45323 PARK SIERRA DR # 448		COARSEGOLD	CA	93614-9109
5596588696	3/18/2001	12/31/2199	8/1/2000	12/31/2199			8255909481833940	EAST,DION & RUTH	Service	45323 PARK SIERRA DR # 111		COARSEGOLD	CA	93614-9109
5596588696	4/5/2001	7/19/2010	4/5/2001	12/31/2199			8255909056503870	RYDER,JANICE/KEN	Service	45323 PARK SIERRA DR SPC	350	COARSEGOLD	CA	93614-9109
5596588696	6/23/2001	1/28/2002			6/23/2001	12/31/2199	8255909057085510	MOORE,LAURA	Service	17141 SIMS ST		HUNTINGTON BEACH	CA	92649-4323
5596588696	7/12/2001	11/17/2003			11/14/1999	12/31/2199	8255909052925500	MARTIN,FRANK & BARBARA	Service	45323 PARK SIERRA DR	TRLR 240	COARSEGOLD	CA	93614-9109
5596588696	12/15/2001	12/31/2199	2/2/2000	12/31/2199			8255909053233660	REID,TERRY & DOLORES	Service	45323 PARK SIERRA DR	APT 418	COARSEGOLD	CA	93614-9109
5596588696	1/15/2002	5/1/2006					8255909550022470	BIXLER,KEN	Service	5047 N SAINT MALO AVE		COVINA	CA	91722-1054
5596588696	1/29/2002	4/6/2004			6/23/2001	12/31/2199	8255909057085510	MOORE,LAURA	Service	31275 BIG RIVER WAY		COARSEGOLD	CA	93614-9154
5596588696	4/11/2002	4/12/2005					8255909330934910	FARROW,JUDITH	Service	45323 PARK SIERRA DR # 511		COARSEGOLD	CA	93614-9109
5596588696	5/14/2002	5/27/2002	5/14/2002	12/31/2199			8255909560419510	LYMAN,RODGER	Service	45323 PARK SIERRA DR #503A		COARSEGOLD	CA	93614-9109
5596588696	5/28/2002	12/2/2003	5/14/2002	12/31/2199			8255909560419510	LYMAN,RODGER	Service	45323 PARK SIERRA DR # 503	LETTER A	COARSEGOLD	CA	93614-9109
5596588696	5/28/2002	4/27/2005			11/20/2012	10/23/2014	8255909051268820	GRIGSBY,GARY & LAVERNE	Service	147 RAINBOW DR	ATN GARY & LAVERNE GRIGSBY	LIVINGSTON	TX	77399-1047
5596588696	5/29/2002	12/31/2199	12/21/2008	12/31/2199			8255909560468920	JACKSON, PHYLLIS	Service	45323 PARK SIERRA DR # 304		COARSEGOLD	CA	93614-9109
5596588696	6/26/2002	5/2/2003	6/26/2002	12/31/2199			8255909590358240	BLASE,DOROTHY&ROLAND	Service	45323 PARK SIERRA DR	BLASE	COARSEGOLD	CA	93614-9109
5596588696	7/8/2002	12/31/2199	7/8/2002	12/31/2199	7/8/2002	12/31/2199	8255909560601350	TAYLOR,NORMA	Service	45323 PARK SIERRA DR # 507	NORMA TAYLOR	COARSEGOLD	CA	93614-9109
5596588696	7/20/2002	9/30/2007					8255909050000960	CONKLIN,RALPH & LILA	Service	45323 PARK SIERRA DR # 207		COARSEGOLD	CA	93614-9109
5596588696	9/25/2002	2/8/2004	12/21/2008	12/31/2199			8255909052155110	BACON,LARRY	Service	45323 PARK SIERRA DRIVE	LOT 214	COARSEGOLD	CA	93614-9109
5596588696	10/9/2002	7/17/2005					8255909051577270	MORRIS,PAM	Service	26080 AUBERRY RD		CLOVIS	CA	93611-9651
5596588696	10/22/2002	6/21/2003			1/2/2013	7/2/2015	8255909050001700	LA MERRILL,JOYCE	Service	45323 PARK SIERRA DR	#347 B	COARSEGOLD	CA	93614-9109
5596588696	1/18/2003	12/31/2199	1/18/2003	12/31/2199	1/18/2003	12/31/2199	8255909561282850	KENNY,EILEEN	Service	PONY EXPRESS WAY #35		COARSEGOLD	CA	93614-0000
5596588696	2/18/2003	12/31/2199	2/18/2003	12/31/2199	2/18/2003	12/31/2199	8255909561378640	HAMPTON,STEVE	Service	45323 PARK SIERRA DR LOT 4	11	COARSEGOLD	CA	93614-9109
5596588696	5/3/2003	12/31/2199	6/26/2002	12/31/2199			8255909590358240	BLASE,DOROTHY&ROLAND	Service	45323 PARK SIERRA DR # 308	BLASE	COARSEGOLD	CA	93614-9109
5596588696	6/22/2003	6/16/2005			1/2/2013	7/2/2015	8255909050001700	LA MERRILL,JOYCE	Service	45323 PARK SIERRA DR # 347		COARSEGOLD	CA	93614-9109
5596588696	8/8/2003	9/1/2003	9/23/1998	12/31/2199	9/23/1998	12/31/2199	8255909441169680	WAGGONER,N.CLAYTON & GERRI	Service	45323 PARK SIERRA DR # 245		COARSEGOLD	CA	93614-9109
5596588696	8/13/2003	1/13/2007					8255909561960320	WOODRUFF,DONALD & VIRGINA	Service	45323 PARK SIERRA DR	UPPER SPACE 431	COARSEGOLD	CA	93614-9109
5596588696	9/2/2003	12/31/2199	9/23/1998	12/31/2199	9/23/1998	12/31/2199	8255909441169680	WAGGONER,N.CLAYTON & GERRI	Service	210 RAINBOW DR # 11086		LIVINGSTON	TX	77399-2010
5596588696	9/30/2003	4/20/2004					8255909562112360	KEAN,HARRY	Service	45323 PARK CIERRA DR SPACE	406	COARSEGOLD	CA	93614-9109
5596588696	12/3/2003	12/31/2199	5/14/2002	12/31/2199			8255909560419510	LYMAN,RODGER	Service	45323 PARK SIERRA DR # 408		COARSEGOLD	CA	93614-9109
5596588696	1/28/2004	3/4/2006	12/21/2008	12/31/2199			8255909059421240	HUFF,TARIA	Service	46192 BEECHWOOD DR		OAKHURST	CA	93644-9553
5596588696	2/9/2004	12/31/2199	12/21/2008	12/31/2199			8255909052155110	BACON,LARRY	Service	45323 PARK SIERRA DR	LOT 214	COARSEGOLD	CA	93614-9109
5596588696	3/10/2004	12/31/2199			12/21/2008	12/31/2199	8255909562661010	GARCIA,RILEY	Service	45323 PARK SIERRA DR # 403		COARSEGOLD	CA	93614-9109

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phone_number	location_begin_dt	location_end_dt	pr_phone_bgn_dt	pr_phone_end_dt	sec_phone_bgn_dt	sec_phone_end_dt	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
5596588696	4/21/2004	7/29/2004					8255909562112360	KEAN,HARRY	Service	45323 PARK SIERRA DR SITE	430	COARSEGOLD	CA	93614-0000
5596588696	5/4/2004	12/31/2199	12/21/2008	12/31/2199			8255909562821070	BOWAN,TODD	Service	45323 PARK SIERRA DR # 336		COARSEGOLD	CA	93614-9109
5596588696	7/30/2004	3/2/2006					8255909562112360	KEAN,HARRY	Service	45323 PARK SIERRA DR SITE	430	COARSEGOLD	CA	93614-9109
5596588696	12/11/2004	8/25/2005	12/11/2004	12/31/2199	12/11/2004	12/31/2199	8255909563612680	LANE,MARY	Service	45323 PARK SIERRA DR # 414	GENERAL DELIVERY	COARSEGOLD	CA	93614-9109
5596588696	4/13/2005	12/31/2199					8255909330934910	FARROW,JUDITH	Service	45323 PARK SIERRA DR # 531		COARSEGOLD	CA	93614-9109
5596588696	4/28/2005	12/1/2006			11/20/2012	10/23/2014	8255909051268820	GRIGSBY,GARY & LAVERNE	Service	147 RAINBOW DR # 4783	ATN GARY & LAVERNE GRIGSBY	LIVINGSTON	TX	77399-1047
5596588696	4/29/2005	12/31/2199	9/15/1998	12/31/2199			8255909441147100	SKOMSKI,ADAMAR & PATRICIA	Service	102 RAINBOW DR # 203	UNSERVICEABLE	LIVINGSTON	TX	77399-1002
5596588696	5/10/2005	6/26/2005					8255909380851330	PIERCE,EUGENE& NORMA	Service	45323 PARK SIERRA DR # 520	C/O SKP PARK SIERRA	COARSEGOLD	CA	93614-9109
5596588696	6/17/2005	10/26/2006			1/2/2013	7/2/2015	8255909050001700	LA MERRILL,JOYCE	Service	45323 PARK SIERRA DR # 233		COARSEGOLD	CA	93614-9109
5596588696	7/18/2005	3/14/2007					8255909051577270	MORRIS,PAM	Service	45323 PARK SIERRA DR # 117		COARSEGOLD	CA	93614-9109
5596588696	7/18/2005	12/31/2199	7/21/2005	12/31/2199			8255909564402010	TUMA,VENCL	Service	45323 PARK SIERRA DR # 451		COARSEGOLD	CA	93614-9109
5596588696	8/26/2005	12/31/2199	12/11/2004	12/31/2199	12/11/2004	12/31/2199	8255909563612680	LANE,MARY	Service	45323 PARK SIERRA DR # 414		COARSEGOLD	CA	93614-9109
5596588696	10/31/2005	12/31/2199	12/21/2008	12/31/2199			8255909574249910	KRANZ,MARY	Service	1191 COLEMAN RD APT 147		SAN JOSE	CA	95120-5908
5596588696	11/9/2005	6/9/2006	11/9/2005	12/31/2199			8255909564839550	LEMM,EARL	Service	214 RAINBOW DR # 11406		LIVINGSTON	TX	77399-0001
5596588696	3/3/2006	6/9/2015					8255909562112360	KEAN,HARRY	Service	17777 LANGLOIS RD SPC 27		DESERT HOT SPRINGS	CA	92241-9406
5596588696	4/20/2006	12/31/2199	12/21/2008	12/31/2199			8255909565420240	EAST,DEON	Service	4323 PARK SIERRA DR #427		COARSEGOLD	CA	93614-0000
5596588696	5/2/2006	12/31/2199					8255909550022470	BIXLER,KEN	Service	4951 NETARTS HWY W # 2354		TILLAMOOK	OR	97141-9467
5596588696	5/15/2006	4/14/2008	5/15/2006	12/31/2199			8255909565512440	EAST,DION	Service	4323 PARK SIERRA DR 47744		COARSEGOLD	CA	93614-0000
5596588696	6/10/2006	10/12/2006	11/9/2005	12/31/2199			8255909564839550	LEMM,EARL	Service	45323 PARK SIERRA DR	45323 PARK SIERRA DR	COARSEGOLD	CA	93614-9109
5596588696	10/13/2006	5/2/2012	11/9/2005	12/31/2199			8255909564839550	LEMM,EARL	Service	1110 N HENNESS RD LOT 1798		CASA GRANDE	AZ	85222-5580
5596588696	10/27/2006	10/28/2006			1/2/2013	7/2/2015	8255909050001700	LA MERRILL,JOYCE	Service	13488 EAST 53 TH DR		YUMA	AZ	85367-0000
5596588696	10/29/2006	9/22/2007			1/2/2013	7/2/2015	8255909050001700	LA MERRILL,JOYCE	Service	13488 E 53RD DR		YUMA	AZ	85367-8427
5596588696	11/27/2006	4/22/2007	1/23/1998	12/31/2199			8255909440649360	CESSNA,ROBERT&CAROL	Service	45323 PARK SIERRA DR LOT	542	COARSEGOLD	CA	93614-9109
5596588696	12/2/2006	11/19/2012			11/20/2012	10/23/2014	8255909051268820	GRIGSBY,GARY & LAVERNE	Service	16225 CEINEGA RD		PAICINES	CA	95043-0000
5596588696	1/14/2007	1/31/2010					8255909561960320	WOODRUFF,DONALD & VIRGINA	Service	45323 PARK SIERRA DR UPPR	SPACE 431	COARSEGOLD	CA	93614-0000
5596588696	2/8/2007	12/31/2199					8255909566695370	GOETZ,PATRICIA	Service	31432 DELAWARE RD		COARSEGOLD	CA	93614-9784
5596588696	2/26/2007	7/2/2008	12/21/2008	12/31/2199	12/21/2008	9/26/2013	8255909621735910	FENDER,CARL	Service	12870 E US HIGHWAY 92		DOVER	FL	33527-4102
5596588696	3/15/2007	4/3/2014					8255909051577270	MORRIS,PAM	Service	43531 ACACIA AVE SPC 70		HEMET	CA	92544-5287
5596588696	4/17/2007	12/31/2199					8255909380851330	PIERCE,EUGENE& NORMA	Service	45323 PARK SIERRA DR	# DRIVE520	COARSEGOLD	CA	93614-9109
5596588696	4/23/2007	12/31/2199	1/23/1998	12/31/2199			8255909440649360	CESSNA,ROBERT&CAROL	Service	106 RAINBOW DR # 639	UPDATE	LIVINGSTON	TX	77399-1006
5596588696	7/5/2007	8/10/2007					8255909035913810	STANLEY,MARTINK	Service	456 E WALKER ST		BENSON	AZ	85602-6119
5596588696	7/17/2007	12/31/2199	7/20/2007	12/31/2199			8255909567359850	WERNESS,JOHN	Service	45323 PARK SIERRA DR # 348		COARSEGOLD	CA	93614-9109
5596588696	8/11/2007	8/23/2007					8255909035913810	STANLEY,MARTINK	Service	45323 PARK SIERRA		COARSEGOLD	CA	93614-0000
5596588696	8/24/2007	10/13/2007					8255909035913810	STANLEY,MARTINK	Service	45323# PARK SIERRA DR		COARSEGOLD	CA	93614-0000
5596588696	9/23/2007	3/19/2008			1/2/2013	7/2/2015	8255909050001700	LA MERRILL,JOYCE	Service	45323 PARK SIERRA DR	LOT #233	COARSEGOLD	CA	93614-9109
5596588696	10/1/2007	4/19/2010					8255909050000960	CONKLIN,RALPH & LILA	Service	45323A PARK SIERRA DR		COARSEGOLD	CA	93614-9109
5596588696	10/14/2007	11/16/2007					8255909035913810	STANLEY,MARTINK	Service	45323# PARK SIERRA DR	UNIT 525	COARSEGOLD	CA	93614-0000
5596588696	11/17/2007	11/17/2007					8255909035913810	STANLEY,MARTINK	Service	54655 MCKENZIE RIVER DR	STANLEY	BLUE RIVER	OR	97413-9714
5596588696	11/18/2007	2/9/2014					8255909035913810	STANLEY,MARTINK	Service	54655 MCKENZIE RIVER DR	DR STANLEY	BLUE RIVER	OR	97413-9714
5596588696	3/20/2008	3/23/2010			1/2/2013	7/2/2015	8255909050001700	LA MERRILL,JOYCE	Service	45323 PARK SIERRA DR	LOT 233	COARSEGOLD	CA	93614-9109
5596588696	4/15/2008	5/2/2012	5/15/2006	12/31/2199			8255909565512440	EAST,DION	Service	45323 PARK SIERRA DR	427	COARSEGOLD	CA	93614-0000
5596588696	5/20/2008	12/31/2199	12/9/2000	12/31/2199			8255909055532040	FAULKNER,KENNETH & SHERRY	Service	710 3RD ST N		CARRINGTON	ND	58421-1624
5596588696	7/3/2008	6/5/2011	12/21/2008	12/31/2199	12/21/2008	9/26/2013	8255909621735910	FENDER,CARL	Service	45323 PARK SIERRA DR	ST 218	COARSEGOLD	CA	93614-9109
5596588696	11/13/2008	12/31/2199			12/21/2008	12/31/2199	8255909440437780	CLICK,DOYLE & ADALINE	Service	45323 PARK SIERRA DR # 504		COARSEGOLD	CA	93614-9109
5596588696	8/11/2009	12/31/2199					8255909051577270	MORRIS,PAM	Service	4944 BLUE HERON DR		BONANZA	OR	97623-8705
5596588696	9/16/2009	12/31/2199					8255909050971040	MORGAN,CAROL	Service	7020 FRIEL RD		ARBUCKLE	CA	95912-9760
5596588696	2/1/2010	12/31/2199					8255909561960320	WOODRUFF,DONALD & VIRGINA	Service	45323 PARK SIERRA DR UPPR	SPACE431	COARSEGOLD	CA	93614-0000
5596588696	3/24/2010	12/31/2199			1/2/2013	7/2/2015	8255909050001700	LA MERRILL,JOYCE	Service	45323 PARK SIERRA DR LOT	233	COARSEGOLD	CA	93614-9109
5596588696	4/6/2010	12/6/2011					8255909051577270	MORRIS,PAM	Service	43531 ACACIA AVE	AVE	HEMET	CA	92544-7212
5596588696	4/20/2010	8/29/2010					8255909050000960	CONKLIN,RALPH & LILA	Service	45323A PARK SIERRA DR	SPACE #207	COARSEGOLD	CA	93614-9109
5596588696	5/17/2010	5/27/2012					8255909051486780	DORRIS,ROBERT & PATRICIA	Service	641 N FOWLER AVE APT 121		CLOVIS	CA	93611-6612
5596588696	5/23/2010	9/22/2010					8255909562112360	KEAN,HARRY	Service	5 PEACHY KEAN WAY # 5		OROVILLE	CA	95965-9675
5596588696	7/20/2010	12/31/2199	4/5/2001	12/31/2199			8255909056503870	RYDER,JANICE/KEN	Service	45323 PARK SIERRA DR	SPC 350	COARSEGOLD	CA	93614-9109
5596588696	8/30/2010	1/30/2011					8255909050000960	CONKLIN,RALPH & LILA	Service	45323A PARK SIERRA DR	SPC 207	COARSEGOLD	CA	93614-9109
5596588696	1/31/2011	6/3/2012					8255909050000960	CONKLIN,RALPH & LILA	Service	45323 PARK SIERRA DR	SPC 207	COARSEGOLD	CA	93614-9109
5596588696	5/22/2011	9/17/2011					8255909562112360	KEAN,HARRY	Service	63 PEACHY KEAN WAY		OROVILLE	CA	95965-9675
5596588696	6/6/2011	10/17/2011	12/21/2008	12/31/2199	12/21/2008	9/26/2013	8255909621735910	FENDER,CARL	Service	45323 PARK SIERRA DR	SITE 509	COARSEGOLD	CA	93614-9109
5596588696	10/18/2011	11/8/2011	12/21/2008	12/31/2199	12/21/2008	9/26/2013	8255909621735910	FENDER,CARL	Service	45323 PARK SIERRA DR	DR	COARSEGOLD	CA	93614-9109
5596588696	11/9/2011	12/31/2199	12/21/2008	12/31/2199	12/21/2008	9/26/2013	8255909621735910	FENDER,CARL	Service	45323 PARK SIERRA DR	ST 509	COARSEGOLD	CA	93614-9109
5596588696	4/4/2012	8/11/2013					8255909051577270	MORRIS,PAM	Service	43531 ACACIA AVE SPC 70		HEMET	CA	92544-528
5596588696	5/3/2012	12/31/2199	11/9/2005	12/31/2199			8255909564839550	LEMM,EARL	Service	1110 N HENNESS RD LOT 1798		CASA GRANDE	AZ	85122-5580
5596588696	5/3/2012	12/31/2199	5/15/2006	12/31/2199			8255909565512440	EAST,DION	Service	45323 PARK SIERRA DR # 427		COARSEGOLD	CA	93614-9109
5596588696	5/28/2012	12/31/2199					8255909051486780	DORRIS,ROBERT & PATRICIA	Service	641 N FOWLER AVE APT 121		CLOVIS	CA	93611-661
5596588696	6/4/2012	2/7/2014					8255909050000960	CONKLIN,RALPH & LILA	Service	45323 PARK SIERRA DR SPC	207	COARSEGOLD	CA	93614-910

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phone_number	location_begin_dt	location_end_dt	pr_phone_bgn_dt	pr_phone_end_dt	sec_phone_bgn_dt	sec_phone_end_dt	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
5596588696	11/20/2012	12/31/2199			11/20/2012	10/23/2014	8255909051268820	GRIGSBY,GARY & LAVERNE	Service	45323 PARK SIERRA DR # 517		COARSEGOLD	CA	93614-9109
5596588696	2/8/2014	12/31/2199					8255909050000960	CONKLIN,RALPH & LILA	Service	45323 PARK SIERRA DR SPC	207	COARSEGOLD	CA	93614-9109
5596588696	2/10/2014	2/19/2014					8255909035913810	STANLEY,MARTINK	Service	54655 MCKENZIE RIVER DR	PH MQZ6	BLUE RIVER	OR	97413-9714
5596588696	2/20/2014	6/5/2014					8255909035913810	STANLEY,MARTINK	Service	54655 MCKENZIE RIVER DR		BLUE RIVER	OR	97413-9714
5596588696	4/4/2014	5/7/2014					8255909051577270	MORRIS,PAM	Service	45323 ARK SIERRA DR	SPC 248	COARSEGOLD	CA	93614-0000
5596588696	6/6/2014	12/31/2199					8255909035913810	STANLEY,MARTINK	Service	54655 MCKENZIE RIVER DR	PH VCV6	BLUE RIVER	OR	97413-9714
5596588696	10/23/2014	11/29/2014					8255909051577270	MORRIS,PAM	Service	45323 PARK SIERRA DR		COARSEGOLD	CA	93614-9109
5596588696	3/29/2015	4/13/2015					8255909051577270	MORRIS,PAM	Service	45323 PARK SIERRA DR # 248		COARSEGOLD	CA	93614-9109
5596588696	6/10/2015	4/4/2016					8255909562112360	KEAN,HARRY	Service	5 PEACHY KEAN WAY		OROVILLE	CA	95965-9675
5596588696	10/11/2015	11/29/2015					8255909562112360	KEAN,HARRY	Service	1777 LANGLOIS RD SPC 27		DESERT HOT SPRINGS	CA	92241-0000
5596588696	4/5/2016	12/31/2199					8255909562112360	KEAN,HARRY	Service	5 PEACHY KEAN WAY		OROVILLE	CA	95965-0000

Note:
[1] This exhibit shows all of the Customer Account records associated with one phone number. There are records from 7 states and 52 different customer account numbers. Records highlighted in gray indicate records that Dr.Yoeli considered in his analysis.

Source:
[1] Set 1A - Inquiry (DTX907).

Exhibit 4.A
Internal Inconsistency in TransUnion Data

phone_number	call_date	campaign
2013171660	2/9/2008	5157_08W06_LTS_OTM_ENGLISH_20080205

Set 10

phone_number	trans_datefirstseen	trans_datelastseen	trans_firstname	trans_middlename	trans_lastname	trans_addressline1	trans_city	trans_state	trans_zip
2013171660	6/30/1991	6/1/1991	ZBIGNIEW		POLAK	134 TERHUNE AVE	JERSEY CITY	NJ	7305
2013171660	6/30/1991	6/1/1994	ZBIGNIEW		POLAK	229 CHESTNUT ST	KEARNY	NJ	7032
2013171660	5/1/1992	4/4/2013	ZBIGNIEW		POLAK	219 FOOTPRINT RD	EAST STROUDSBURG	PA	18302
2013171660	5/1/1992	5/3/2016	ZBIGNIEW		POLAK	833 HARRISON AVE # 1	KEARNY	NJ	7032
2013171660	5/31/1992	5/17/2016	ZBIGNIEW		POLAK	833 HARRISON AVE	KEARNY	NJ	7032
2013171660	1/28/1997	1/28/1997	ZBIGNIEW		POLAK	171 MESEROLE ST	BROOKLYN	NY	11206
2013171660	8/1/1998	11/1/2008	AMBER	MARIE	GRECCO	160 MANZANITA AVE	DELTA	UT	84624
2013171660	5/14/1999	8/16/2005	AMBER	MARIE	GRECCO	12604 OAK KNOLL RD APT 13	POWAY	CA	92064
2013171660	10/7/2000	4/1/2016	AMBER	MARIE	GRECCO	PO BOX 30046	MIDWEST CITY	OK	73140
2013171660	5/31/2001	1/20/2007	AMBER	MARIE	GRECCO	1760 AMERICANA BLVD APT D	ORLANDO	FL	32839
2013171660	1/18/2002	1/18/2002	ZBIGNIEW		POLAK	34 HARRISON AVE # 36	HARRISON	NJ	7029
2013171660	6/30/2002	6/1/2005	AMBER	MARIE	GRECCO	3962 CONROY RD # C	ORLANDO	FL	32839
2013171660	8/31/2003	5/17/2016	AMBER	MARIE	GRECCO	10369 GOLDEN AVE	WEEKI WACHEE	FL	34613
2013171660	7/31/2005	6/9/2009	AMBER	MARIE	GRECCO	3917 CONRAD DR APT E2	SPRING VALLEY	CA	91977
2013171660	12/31/2008	5/18/2016	MICHAEL		BERG	1000 PARK AVE # 6B	NEW YORK	NY	10028
2013171660	8/31/2009	2/14/2010	AMBER	MARIE	GRECCO	10878 CALLE VERDE APT 136	LA MESA	CA	91941
2013171660	10/31/2010	11/1/2015	AMBER	MARIE	GRECCO	10850 JAMACHA BLVD APT K8	SPRING VALLEY	CA	91978
2013171660	4/4/2013	4/4/2013	AMBER	MARIE	GRECCO	8386 EVERGREEN AVE	BROOKSVILLE	FL	34613

Note:
[1] This exhibit shows all TransUnion records associated with one phone number. Records highlighted in gray indicate records that Dr.Yoeli considered in his analysis.

Source:
[1] Set 10 - EBRU (fed_tmy_ebru).

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012119

Exhibit 4.B
Internal Inconsistency in TransUnion Data

phone_number	call_date	campaign
3108669812	1/22/2008	5140_08W03_LTS_OTM_ENGLISH_20080117

Set 10

phone_number	trans_datefirstseen	trans_datelastseen	trans_firstname	trans_middlename	trans_lastname	trans_addressline1	trans_city	trans_state	trans_zip
3108669812	11/9/1992	1/23/2003	SAMUEL	ANDREW	HITZ	322 E CANON PERDIDO ST	SANTA BARBARA	CA	93101
3108669812	3/31/1993	3/6/2003	SAMUEL	ANDREW	HITZ	217 LOWELL MAIL CTR	CAMBRIDGE	MA	2138
3108669812	7/31/1993	1/23/2003	SAMUEL	ANDREW	HITZ	964 CHELTENHAM RD	SANTA BARBARA	CA	93105
3108669812	5/1/2002	4/6/2004	SAMUEL	ANDREW	HITZ	2520 23RD ST	BOULDER	CO	80304
3108669812	5/31/2002	9/15/2008	SAMUEL	ANDREW	HITZ	3620 HELMS AVE	CULVER CITY	CA	90232
3108669812	1/15/2003	8/1/2013	ZHENG	DAO	LAN	7474 SHAWNEE RUN RD	CINCINNATI	OH	45243
3108669812	1/11/2004	11/1/2006	SAMUEL	ANDREW	HITZ	576 RIALTO AVE APT A	VENICE	CA	90291
3108669812	5/28/2007	6/30/2014	ZHENG	DAO	LAN	539 DUNKIRK RD	BALTIMORE	MD	21212
3108669812	7/31/2007	2/4/2012	SAMUEL	ANDREW	HITZ	4617 N MULLEN ST	TACOMA	WA	98407
3108669812	7/31/2007	9/1/2013	ZHENG	DAO	LAN	5892 TRAILSIDE CT	MASON	OH	45040
3108669812	11/30/2007	12/1/2012	ZHENG	DAO	LAN	680 W SAM HOUSTON PKWY S APT 1113	HOUSTON	TX	77042
3108669812	5/31/2008	9/1/2010	SAMUEL	ANDREW	HITZ	3527 HELMS AVE	CULVER CITY	CA	90232
3108669812	4/14/2010	8/1/2012	ZHENG	DAO	LAN	3903 S MASON RD APT 1227	KATY	TX	77450
3108669812	7/6/2010	5/17/2016	SAMUEL	ANDREW	HITZ	658 ORANGE DR	SIERRA MADRE	CA	91024
3108669812	8/3/2010	5/3/2016	ZHENG	DAO	LAN	11542 RIVERVIEW DR # 41	HOUSTON	TX	77077
3108669812	3/1/2012	5/17/2016	ZD		LAN	5892 TRAILSIDE CT	MASON	OH	45040
3108669812	7/31/2012	11/21/2012	SAMUEL	ANDREW	HITZ	1330 N SKYLINE DR	TACOMA	WA	98406
3108669812	8/31/2012	9/30/2012	ZHENG	DAO	LAN	680 W SAM HOUSTON PKWY S APT 111	HOUSTON	TX	77042
3108669812	12/31/2012	1/9/2014	ZHENG	DAO	LAN	364 WILCREST DR	HOUSTON	TX	77042
3108669812	1/2/2014	1/2/2014	ZHENG	DAO	LAN	11542 RIVERVIEW DR # 000041	HOUSTON	TX	77077
3108669812	3/13/2014	10/2/2015	ZD		LAN	11542 RIVERVIEW DR # 41	HOUSTON	TX	77077
3108669812	5/13/2016	5/17/2016	ZHENG	DAO	LAN	11542 RIVERVIEW DR	HOUSTON	TX	77077

Note:
[1] This exhibit shows all TransUnion records associated with one phone number. Records highlighted in gray indicate records that Dr.Yoeli considered in his analysis.

Source:
[1] Set 10 - Inquiry (DTX907).

Exhibit 4.C
Internal Inconsistency in TransUnion Data

phone_number	call_date	campaign
2526375327	1/8/2008	5088_07W51_COLD_OTM_QUAD1

Set 10

phone_number	trans_datefirstseen	trans_datelastseen	trans_firstname	trans_middlename	trans_lastname	trans_addressline1	trans_city	trans_state	trans_zip
2526375327			BRYAN	KEITH	EDWARDS	210 BATTLEGROUND AVE # TR 15	NEW BERN	NC	28560
2526375327		4/1/1983	DOLLIE	B	EDWARDS	PO BOX 3293	NEW BERN	NC	28564
2526375327	10/31/1984	1/23/2003	DOLLIE	B	EDWARDS	2106 OLD CHERRY POINT RD	NEW BERN	NC	28560
2526375327	2/28/1986	5/4/2011	ROBERT	EDGAR	ALLEN	320 SHIELDS RD	SOUTHERN PINES	NC	28387
2526375327	10/31/1986	1/23/2003	ROBERT	EDGAR	ALLEN	121 NW 14TH ST	OAK ISLAND	NC	28465
2526375327	2/29/1988	1/23/2003	BRYAN	KEITH	EDWARDS	2102 OLD CHERRY POINT RD	NEW BERN	NC	28560
2526375327	1/31/1994	6/1/2006	BRYAN	KEITH	EDWARDS	2106 OLD CHERRY POINT RD	NEW BERN	NC	28560
2526375327	2/28/1998	1/19/2005	ROBERT	EDGAR	ALLEN	103 B ST # REQ	FAYETTEVILLE	NC	28301
2526375327	3/2/1998	3/1/2011	CHRISTINE	LILLIAN	AMBROSE	1408 NORWICH RD	NEW BERN	NC	28562
2526375327	5/1/1998	1/23/2003	ROBERT	EDGAR	ALLEN	PO BOX 80264	CHARLESTON	SC	29416
2526375327	5/31/1998	5/1/2000	ROBERT	EDGAR	ALLEN	1742 SAM RITTENBERG BLVD APT 19E	CHARLESTON	SC	29407
2526375327	5/31/1998	12/1/2015	ROBERT	EDGAR	ALLEN	1807 DUNBARTON DR # 19E	CHARLESTON	SC	29407
2526375327	10/31/1998	4/1/2016	ROBERT	EDGAR	ALLEN	1807 DUNBARTON DR	CHARLESTON	SC	29407
2526375327	11/30/1998	9/1/2010	CHRISTINE	LILLIAN	AMBROSE	1405 PARKTOWN DR	OCEAN SPRINGS	MS	39564
2526375327	6/30/2000	8/1/2009	DOLLIE	B	EDWARDS	111 KINNETT BLVD	NEW BERN	NC	28560
2526375327	6/30/2000	5/3/2016	BRYAN	KEITH	EDWARDS	111 KINNETT BLVD	NEW BERN	NC	28560
2526375327	8/17/2000	10/15/2011	DOLLIE	B	EDWARDS	210 BATTLEGROUND AVE LOT 15	NEW BERN	NC	28560
2526375327	8/31/2000	6/26/2007	CHRISTINE	LILLIAN	AMBROSE	1005 OLD CHERRY POINT RD	NEW BERN	NC	28560
2526375327	1/1/2001	5/17/2016	CHRISTINE	LILLIAN	AMBROSE	1313 GLACIER AVE	OCEAN SPRINGS	MS	39564
2526375327	9/16/2001	9/16/2001	ROBERT	EDGAR	ALLEN	6101 BELLS MILL DR	CHARLOTTE	NC	28269
2526375327	12/31/2001	12/1/2002	ROBERT	EDGAR	ALLEN	PO BOX 12961	NEW BERN	NC	28561
2526375327	1/24/2003	3/1/2011	BRYAN	KEITH	EDWARDS	210 BATTLEGROUND AVE LOT 15	NEW BERN	NC	28560
2526375327	2/18/2003	11/8/2007	ED		ALLEN	909 HIGHLAND AVE	TRENT WOODS	NC	28562
2526375327	5/31/2003	5/17/2016	ROBERT	EDGAR	ALLEN	909 HIGHLAND AVE	TRENT WOODS	NC	28562
2526375327	9/1/2003	3/1/2006	CHRISTINE	LILLIAN	AMBROSE	333 SNEAD DR	CROSSVILLE	TN	38558
2526375327	12/21/2003	12/21/2003	ED		ALLEN	2608 ELIZABETH AVE	NEW BERN	NC	28562
2526375327	10/31/2005	11/1/2005	CHRISTINE	LILLIAN	AMBROSE	PO BOX 14150	NEW BERN	NC	28561
2526375327	8/1/2006	2/5/2007	CHRISTINE	LILLIAN	AMBROSE	202 HILL AVE # BSM	ELMONT	NY	11003
2526375327	10/31/2008	2/6/2014	CHRISTINE	LILLIAN	AMBROSE	4109 SILVERWOOD DR	OCEAN SPRINGS	MS	39564
2526375327	7/31/2010	4/24/2011	BRYAN	KEITH	EDWARDS	7610 NC HIGHWAY 55 E	NEW BERN	NC	28560
2526375327	7/31/2010	5/17/2016	BRYAN	KEITH	EDWARDS	346 NC HIGHWAY 307	BAYBORO	NC	28515
2526375327	3/31/2011	7/1/2011	CHRISTINE	LILLIAN	AMBROSE	5908 WALTMAN RD	VANCLEAVE	MS	39565
2526375327	7/31/2011	7/1/2011	CHRISTINE	LILLIAN	AMBROSE	PO BOX 5221	VANCLEAVE	MS	39565
2526375327	1/17/2013	1/17/2013	BRYAN	KEITH	EDWARDS	919 GEORGE ST	NEW BERN	NC	28560
2526375327	7/31/2014	7/1/2015	BRYAN	KEITH	EDWARDS	328 WILLIAMSON DR	WILMINGTON	NC	28412

Note:
[1] This exhibit shows all TransUnion records associated with one phone number. Records highlighted in gray indicate records that Dr.Yoeli considered in his analysis.

Source:
[1] Set 10 - No Solicitation (DTX909).

Exhibit 5.A
Incomplete Speedeon Address Data

phone_number	call_date	campaign
2023629104	1/22/2009	5895_09W04_LTS_PHONE_ENGLISH

Set 11

phone_number	speedeon_date	speedeon_action	speedeon_result_first	speedeon_result_last	speedeon_result_address1	speedeon_result_address2	speedeon_result_city	speedeon_result_state	speedeon_result_zip
2023629104	00:00:00 16 Feb 2005	D	KNIGHT	KIPLINGER	3630 FORDHAM RD NW		WASHINGTON	DC	20016
2023629104	00:00:00 02 Jun 2014	D	KNIGHT	KIPLINGER	4101 ALBEMARLE ST NW		WASHINGTON	DC	20016
2023629104	10:13:53 27 Feb 2016	I	KNIGHT	KIPLINGER	4101 ALBEMARLE ST NW		WASHINGTON	DC	20016

Note:
[1] This exhibit shows an example of a call for which there are deletions without corresponding insertions in the Speedeon address data. The record highlighted in gray indicates the record that Dr.Yoeli considered in his analysis.

Source:
[1] Set 11 - EBRU (fed_tmy_ebru).

Exhibit 5.B
Incomplete Speedeon Address Data

phone_number	call_date	campaign
2073422338	5/21/2008	5310_08W20_LTS_OTM_ENGLISH_20080513

Set 11

phone_number	speedeon_date	speedeon_action	speedeon_result_first	speedeon_result_last	speedeon_result_address1	speedeon_result_address2	speedeon_result_city	speedeon_result_state	speedeon_result_zip
2073422338	00:00:00 21 Jul 2006	D	JAMES	DICKSON	0		MORRILL	ME	4952
2073422338	00:00:00 09 Aug 2007	D	ANNELLEN	PHELPS	12 MAIN ST S		SEARSMONT	ME	4973
2073422338	00:00:00 12 Sep 2007	D	LAURA	AVIAL	12 MAIN ST S		SEARSMONT	ME	4973
2073422338	00:00:00 25 Dec 2013	I	KYRA	HARFORD	73 MOREY HILL RD		MORRILL	ME	4952

Note:
[1] This exhibit shows an example of a call for which there are deletions without corresponding insertions in the Speedeon address data.

Source:
[1] Set 11 - Inquiry (DTX907).

Exhibit 5.C
Incomplete Speedeon Address Data

phone_number	call_date	campaign
2078731914	7/14/2009	6290_09W27_LTS_PHONE_ENGLISH

Set 11

phone_number	speedeon_date	speedeon_action	speedeon_result_first	speedeon_result_last	speedeon_result_address1	speedeon_result_address2	speedeon_result_city	speedeon_result_state	speedeon_result_zip
2078731914	00:00:00 24 Jan 2006	D	D	BURNS	131 HALIFAX ST		WINSLOW	ME	4901
2078731914	00:00:00 01 Nov 2010	D	M	TOBIN	542 AUGUSTA RD		WINSLOW	ME	4901
2078731914	00:00:00 14 Sep 2012	I	LEROY	HUTCHINGS	542 AUGUSTA RD		WINSLOW	ME	4901

Note:
[1] This exhibit shows an example of a call for which there are deletions without corresponding insertions in the Speedeon address data. The record highlighted in gray indicates the record that Dr.Yoeli considered in his analysis.

Source:
[1] Set 11 - Inquiry (DTX907).

Exhibit 6
Summary of Call Types

Category	Call Type	Description	Call Sets: EBRN	EBRU	No English	Uncompleted	Inquiry	Taylor 501,650	AM Calls
Active Customer	Automessage	Pre-recorded calls intended for active customers.	-	-	-	-	-	-	98,054
Active Customer	Future Disconnect	Calls to existing customers who have indicated that they plan to disconnect their service, asking them to reconsider.	328	36,463	12	3,546	-	-	-
Active Customer	Non Telemarketing	Calls made to existing customers, including surveys, informational campaigns, and autopay campaigns.	48	58,924	9	2,954	-	1,314	-
Active Customer	Upsell	Calls to existing customers for the purpose of selling additional channels or other promotions.	5,726	783,878	835	70,195	-	35,737	-
Active Customer	Work Order	Calls to existing customers for scheduling installation and repair appointments.	-	80,909	-	9,330	-	6,777	-
Former Customer	Winback	Calls made to former customers who have disconnected their service.	1,105,669	101,974	11,159	147,502	-	249,957	-
Potential Customer	Cold Call	Calls made to non-customers to sell DISH services. Unlike inquiries, the customer did not previously inquire about DISH service.	-	122,943	274	5,045	-	120,519	-
Potential Customer	Inquiry	Calls placed to potential customers who have expressed an interest in DISH services.	-	959,224	12	65,439	873,551	-	-
Potential Customer	Opt In	A single call campaign where customers opted in to learn about DISH services, similar to a lead or inquiry.	-	24,902	170	2,402	-	21,408	-
Other	Other	Miscellaneous telemarketing campaigns.	354	61,073	81	3,518	-	65,938	-

Note:
[1] I understand that these sets of call records are overlapping.

Sources:
[1] Call Records for which State Plaintiffs requested address data (fed_tmy_ebrn, fed_tmy_ebru, DTX903, DTX905, DTX907, DTX909, PX1410).
[2] Appendix C.

Exhibit 7.A
Dr. Yoeli's "Any State" Match

phone_number	call_date	campaign
6612962005	2/20/2009	5929_09W06_LTS_PHONE_ENGLISH

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_phone_bgn_dt	pr_phone_end_dt	sec_phone_bgn_dt	sec_phone_end_dt	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
6612962005	2/3/2009	12/31/2199			1/1/2009	12/31/2199	8255909613258600	TALLMAN,SHARON	Billing	357 BIMINI CAY CIR		VERO BEACH	FL	32966-0208
6612962005	2/2/2009	12/31/2199			1/1/2009	12/31/2199	8255909613258600	TALLMAN,SHARON	Service	357 BIMINI CAY CIR		VERO BEACH	FL	32966-0208

Set 2

phone_number	lead_creation_dttm	first_name	last_name	address	city	state	zipcode
6612962005	2/2/2009	SHARON	TALLMAN		SANTA CLARITA	CA	913903105

Note:
[1] This exhibit shows an example of a call for which there is conflicting information about the address associated with the phone number at the time of the call. Records highlighted in gray indicate records that Dr.Yoeli considered in his analysis. Dr. Yoeli's "Any State" methodology classifies this Call Record as a California match.

Sources:
[1] Set 1A - EBRU (fed_tmy_ebru).
[2] Set 2 - EBRU (fed_tmy_ebru).

Exhibit 7.B
Dr. Yoeli's "Any State" Match

phone_number	call_date	campaign
8286843024	9/11/2007	TH VOL TRAIL (2MTH)

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_phone_bgn_dt	pr_phone_end_dt	sec_phone_bgn_dt	sec_phone_end_dt	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
8286843024	3/18/2001	5/2/2006			4/23/1999	12/31/2199	8255909341221940	WATKINS,MARVIN	Service	5 COMMUNITY RD		FLETCHER	NC	28791-0000
8286843024	5/3/2006	3/7/2008			4/23/1999	12/31/2199	8255909341221940	WATKINS,MARVIN	Service	7252 N VICKERYVILLE RD		EDMORE	MI	48829-9339
8286843024	3/8/2008	12/31/2199			4/23/1999	12/31/2199	8255909341221940	WATKINS,MARVIN	Service	7252 N VICKERYVILLE RD	SKY ANGEL TRANSITION	EDMORE	MI	48829-9339
8286843024	3/9/2008	5/5/2008			4/23/1999	12/31/2199	8255909341221940	WATKINS,MARVIN	Service	7252 N VICKERYVILLE RD	SKY ANGEL TRANSITION	EDMORE	MI	48829-0000
8286843024	5/6/2008	5/6/2008			4/23/1999	12/31/2199	8255909341221940	WATKINS,MARVIN	Service	7252 N VICKERYVILLE RD	7252 N VICKERYVILLE RD	EDMORE	MI	48829-0000
8286843024	5/7/2008	5/2/2012			4/23/1999	12/31/2199	8255909341221940	WATKINS,MARVIN	Service	SKY ANGEL TRANSITION	7252 N VICKERYVILLE RD	EDMORE	MI	48829-0000

Set 6

phone_number	eff_date	exp_date	account_number	name	address1	address2	city	state	postal_code
8286843024	4/23/1999		8255909341221940	WATKINS,MARVIN	5 COMMUNITY RD		FLETCHER	NC	28791

Note:
[1] This exhibit shows an example of a call for which there is conflicting information about the address associated with the phone number at the time of the call. Records highlighted in gray indicate records that Dr.Yoeli considered in his analysis. Dr. Yoeli's "Any State" methodology classifies this Call Record as a North Carolina match.

Sources:
[1] Set 1A - Not Completed (DTX905).
[2] Set 6 - Not Completed (DTX905).

Exhibit 8
Dr. Yoeli's "Any State" Match

phone_number	call_date	campaign
2176381359	1/8/2009	5855_09W02_LTS_PHONE_ENGLISH

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_phone_bgn_dt	pr_phone_bgn_dt	sec_phone_bgn_dt	sec_phone_end_dt	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
2176381359	12/31/2008	12/31/2199	1/1/2009	1/1/2009	1/1/2009	12/31/2199	8255909702306680	RAZA,RUKESANA	Billing	513 BAY ST		BEARDSTOWN	IL	62618-1861
2176381359	12/30/2008	12/31/2199	1/1/2009	1/1/2009	1/1/2009	12/31/2199	8255909702306680	RAZA,RUKESANA	Service	1721 FOXWOOD DR APT 2		JAMISON	PA	18929-1679

Set 2

phone_number	lead_creation_dttm	first_name	last_name	address	city	state	zipcode
2176381359	12/30/2008	RUKESANA	RAZA		BEARDSTOWN	IL	626181861

Note:
[1] This exhibit shows a case where the service and billing addresses for a given account are in different states. Records highlighted in gray indicate records that Dr.Yoeli considered in his analysis. Dr. Yoeli's "Any State" methodology classifies this Call Record as a Illinois match.

Sources:
[1] Set 1A - Inquiry (DTX907).
[2] Set 2 - Inquiry (DTX907).

Exhibit 9.A
Dr. Yoeli's "All State" Match

phone_number	call_date	campaign
4194670175	5/7/2008	OR VOL TRAIL (59MTH)

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_phone_bgn_dt	pr_phone_end_dt	sec_phone_bgn_dt	sec_phone_end_dt	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
4194670175	3/18/2001	6/27/2005	11/22/1999	12/31/2199	11/22/1999	12/31/2199	8255909361376900	DEAMICIS,JASON	Service	1981 LEHMAN AVE		TOLEDO	OH	43611-1780
4194670175	3/15/2004	6/20/2004	11/22/1999	12/31/2199	11/22/1999	12/31/2199	8255909361376900	DEAMICIS,JASON	Service	11 OAK RDG E		MONROE	MI	48161-5767
4194670175	6/28/2005	6/29/2005	11/22/1999	12/31/2199	11/22/1999	12/31/2199	8255909361376900	DEAMICIS,JASON	Service	7549 ORE LAKE RD		BRIGHTON	MI	48116-0000
4194670175	6/30/2005	8/21/2006	11/22/1999	12/31/2199	11/22/1999	12/31/2199	8255909361376900	DEAMICIS,JASON	Service	7549 ORE LAKE RD		BRIGHTON	MI	48116-8227

Set 6

phone_number	eff_date	exp_date	account_number	name	address1	address2	city	state	postal_code
4194670175	8/24/2006		8255909367847321	DEAMICIS,JASON	1981 LEHMAN AVE		TOLEDO	OH	436111780

Set 9

phone_number	csg_account_no	last_name	physical_address_line_1	physical_address_line_2	physical_city	physical_state	zipcode
4194670175	8255909361376900	DEAMICIS,JASON	1981 LEHMAN AVE		TOLEDO	OH	43611-1780

Note:
[1] This exhibit shows an example of a Call Record Dr. Yoeli classifies as being associated with Ohio using his "All State" match. However, additional records in the Customer Account Data indicate the phone number was previously associated with an address in Michigan. Records highlighted in gray indicate records that Dr.Yoeli considered in his analysis.

Sources:
[1] Set 1A - EBRN (fed_tmy_ebrn).
[2] Set 6 - EBRN (fed_tmy_ebrn).
[3] Set 9 - EBRN (fed_tmy_ebrn).

Exhibit 9.B
Dr. Yoeli's “All State” Match

phone_number	call_date	campaign
5308899595	5/6/2008	OR VOL TRAIL (51MTH)

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_phone_bgn_dt	pr_phone_end_dt	sec_phone_bgn_dt	sec_phone_end_dt	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
5308899595	3/18/2001	5/9/2003	2/12/2001	12/31/2199			8255909056070710	WILCOX,CRAIG	Service	1155 HUMBUG WAY		AUBURN	CA	95603-5849
5308899595	2/22/2004	8/9/2004					8255909572452780	REGO,DENNIS E/KRISTINE	Service	3306 CORINTHIAN LANE		AUBURN	CA	95603-0000
5308899595	8/10/2004	7/24/2007					8255909572452780	REGO,DENNIS E/KRISTINE	Service	3131 GREENMOOR CT		COLORADO SPRINGS	CO	80920-3000

Set 6

phone_number	eff_date	exp_date	account_number	name	address1	address2	city	state	postal_code
5308899595	2/12/2001		8255909056070714	WILCOX,CRAIG	1155 HUMBUG WAY		AUBURN	CA	95603

Set 9

phone_number	csg_account_no	last_name	physical_address_line_1	physical_address_line_2	physical_city	physical_state	zipcode
5308899595	8255909056070710	WILCOX,CRAIG	1155 HUMBUG WAY		AUBURN	CA	95603-5849

Note:
[1] This exhibit shows an example of a Call Record Dr. Yoeli classifies as being associated with California using his “All State” match. However, additional records in the Customer Account Data indicate the phone number was previously associated with an address in Colorado. Records highlighted in gray indicate records that Dr.Yoeli considered in his analysis.

Sources:
[1] Set 1A - EBRN (fed_tmy_ebrn).
[2] Set 6 - EBRN (fed_tmy_ebrn).
[3] Set 9 - EBRN (fed_tmy_ebrn).

Exhibit 10
Dr. Yoeli's Treatment of Dates

phone_number	call_date	campaign
2098584270	5/11/2009	6113_09W18_LTS_PHONE_ENGLISH

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_start_date	pr_end_date	sec_start_date	sec_end_date	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
2098584270	11/23/2009	12/31/2199			12/11/2009	12/31/2199	8271909410136150	BECK,PHYLLIS	Service	28 HUNT TER		SEABROOK	SC	29940-3205
2098584270	9/12/2011	12/31/2199			9/12/2011	12/31/2199	8255030410071250	BECK,PHYLLIS	Service	28 HUNT TER		SEABROOK	SC	29940-3205

Note:
[1] This exhibit shows a call record for which Dr. Yoeli concludes there was no address information due to his treatment of dates. If he had expanded his date restrictions, he would have found an inquiry call followed by an active service address.

Source:
[1] Set 1A - EBRU (fed_tmy_ebru).

Revised Exhibit 11
Summary of Call Record Groups

Data Set	EBRN	EBRU	No English	Uncompleted	Inquiry	Taylor 501,650	AM Calls
Calls at Issue	1,112,125	2,230,290	12,552	309,931	873,551	501,650	98,054
Group A Calls at Issue	5,995	950,946	841	85,088	0	43,444	96,792
Group B Calls at Issue	0	72,677	0	4,338	66,170	0	0
Group C Calls at Issue	2,889	218	78	359	0	528	0
Group D Calls at Issue	19,292	70,114	581	8,296	55,268	14,793	0
Group E Calls at Issue	998,869	389,928	9,370	147,474	201,474	289,454	44
Group F Calls at Issue	0	284,698	4	19,398	259,603	0	0
Group G Calls at Issue	0	26,549	13	2,099	20,672	3,965	0
Group H Calls at Issue	85,080	66,112	1,422	21,428	36,873	34,370	1,218
Group I Calls at Issue	0	360,897	242	20,913	226,448	114,863	0
Unmatched Calls	0	8,151	1	538	7,043	233	0

Notes:

[1] Group A includes calls intended for active customers with an associated active address in the Customer Account Data.
[2] Group B includes calls on inquiry campaigns with an associated lead in the Lead Tracking System data prior to the call and an associated service address starting after the call, both in the same state.
[3] Group C includes calls on winback campaigns with an associated service address ending prior to the call, and another associated service address starting after the call, both in the same state.
[4] Group D includes calls intended for potential future customers (leads, cold calls, opt ins) with an associated service address starting after the call and calls intended for former customers (winbacks) with an associated service address ending prior to the call and no contradictory state information in other sources.
[5] Group E includes calls with an associated service address that is not logically related to the Group of call (e.g., a winback with an active service address at the time of the call) and no contradictory state information in other sources.
[6] Group F includes calls on inquiry campaigns with an associated lead in the Lead Tracking System dated prior to the call, but no associated service address, and with no contradictory state information in other sources.
[7] Group G includes calls with associated addresses in Other DISH Internal Data but no addresses in the Customer Account Data, and with no contradictory state information between or within sources.
[8] Group H includes calls with contradictions in state between or within internal DISH sources.
[9] Group I includes calls with associated addresses found only in External Data.
[10] I understand that these sets of call records are overlapping.

Source:

[1] Produced Address Data.

Exhibit 12
Group A Call Record
Upsell Call with Active Service Address

phone_number	call_date	campaign
3105435358	1/19/2008	PB GREEK UPSELL

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_start_date	pr_end_date	sec_start_date	sec_end_date	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
3105435358	3/18/2001	7/30/2003	2/27/1999	12/31/2199			8255909051893380	MARKOWITZ,JEFF	Service	1024 WINSOR AVE		OAKLAND	CA	94610-1104
3105435358	7/31/2003	1/17/2004	2/27/1999	12/31/2199			8255909051893380	MARKOWITZ,JEFF	Service	1024 WINSOR AVE		PIEDMONT	CA	94610-1104
3105435358	1/18/2004	10/3/2004	2/27/1999	12/31/2199			8255909051893380	MARKOWITZ,JEFF	Service	2200 COLORADO AVE APT 113		SANTA MONICA	CA	90404-3592
3105435358	10/4/2004	8/10/2008	2/27/1999	12/31/2199			8255909051893380	MARKOWITZ,JEFF	Service	102 N IRENA AVE UNIT A		REDONDO BEACH	CA	90277-3239
3105435358	8/11/2008	10/10/2014	2/27/1999	12/31/2199			8255909051893380	MARKOWITZ,JEFF	Service	102 N IRENA AVE UNIT A	OLD ADDRESS DO NOT USE	REDONDO BEACH	CA	90277-3239
3105435358	10/11/2014	12/31/2199	2/27/1999	12/31/2199			8255909051893380	MARKOWITZ,JEFF	Service	572 LIBERTY ST		SAN FRANCISCO	CA	94114-2829

Note:
[1] This exhibit shows an upsell call made to a phone number associated with an active service address. The record highlighted in gray indicates the record that Dr.Yoeli considered in his analysis.

Source:
[1] Set 1A - Not Completed (DTX905).

Exhibit 13
Group A Call Record
Future Disconnect Call with Active Service Address

phone_number	call_date	campaign
4195283013	6/7/2008	BF E-CARE

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_start_date	pr_end_date	sec_start_date	sec_end_date	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
4195283013	4/19/2003	9/30/2007	4/19/2003	12/31/2199	4/19/2003	12/31/2199	8255909364400120	FACKLER,ERVIN	Service	237 WIMBLEDON DR		MANSFIELD	OH	44906-2454
4195283013	10/1/2007	9/28/2014	4/19/2003	12/31/2199	4/19/2003	12/31/2199	8255909364400120	FACKLER,ERVIN	Service	6500 BLACK RD		BELLVILLE	OH	44813-9275
4195283013	9/29/2014	12/31/2199	4/19/2003	12/31/2199	4/19/2003	12/31/2199	8255909364400120	FACKLER,ERVIN	Service	255 WIMBLEDON DR		MANSFIELD	OH	44906-2454

Note:
[1] This exhibit shows a future disconnect call placed to a phone number associated with an active service address. The record highlighted in gray indicates the record that Dr.Yoeli considered in his analysis.

Source:
[1] Set 1A - Not Completed (DTX905).

Exhibit 14
Group A Call Record
Non-Telemarketing Call with Active Service Address

phone_number	call_date	campaign
3128193995	1/14/2010	RF_COMMERCIAL SURVEY

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_start_date	pr_end_date	sec_start_date	sec_end_date	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
3128193995	5/18/2006	12/31/2199	12/21/2008	12/31/2199	12/21/2008	6/9/2015	8255160010038680	OLSON,CARL	Service	360 E RANDOLPH ST APT 2708		CHICAGO	IL	60601-7337

Note:
[1] This exhibit shows a non-telemarketing call placed to a phone number associated with an active service address. The record highlighted in gray indicates the record that Dr.Yoeli considered in his analysis.

Source:
[1] Set 1A - NDNCR (DTX903).

Exhibit 15
Group A Call Record
Automessage Call with Active Service Address

phone_number	call_date	campaign
5103967670	10/5/2007	AM 100507ZEE

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_start_date	pr_end_date	sec_start_date	sec_end_date	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
5103967670	4/18/2003	10/26/2003			4/18/2003	12/31/2199	8255909561559470	GUPTA,NITIN	Service	2000 WALNUT AVE APT U		FREMONT	CA	94538-5315
5103967670	10/27/2003	2/8/2004			4/18/2003	12/31/2199	8255909561559470	GUPTA,NITIN	Service	2000 WALNUT AVE APT U304		FREMONT	CA	94538-5395
5103967670	4/3/2007	1/10/2010	4/15/2007	12/31/2199	4/15/2007	12/31/2199	8255909566938580	SINGHANI,PREETI	Service	4873 RIDGEWOOD DR		FREMONT	CA	94555-2844
5103967670	1/11/2010	12/31/2199	4/15/2007	12/31/2199	4/15/2007	12/31/2199	8255909566938580	SINGHANI,PREETI	Service	4873 RIDGEWOOD DR	UPDATED ADDRESS	FREMONT	CA	94555-2844

Note:
[1] This exhibit shows an automessage call placed to a phone number associated with an active service address. The record highlighted in gray indicates the record that Dr.Yoeli considered in his analysis.

Source:
[1] Set 1A - PX1410 (PX1410).

Exhibit 16
Group A Call Record
Work Order Call with Active Service Address

phone_number	call_date	campaign
7048250701	5/27/2009	EP HWO 05026

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_start_date	pr_end_date	sec_start_date	sec_end_date	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
7048250701	5/21/2009	3/1/2012					8255909673481970	SHABAZZ,OCTAVIA	Service	325 CATAWBA ST APT B		BELMONT	NC	28012-3361
7048250701	3/2/2012	12/31/2199					8255909673481970	SHABAZZ,OCTAVIA	Service	325 CATAWBA ST APT B	DUPLICATE ADDRESS	BELMONT	NC	28012-3361

Note:
[1] This exhibit shows a work order call placed to a phone number associated with an active service address. The record highlighted in gray indicates the record that Dr.Yoeli considered in his analysis.

Source:
[1] Set 1A - Not Completed (DTX905).

Exhibit 17
Group A Call Record
Inconsistency Between Area Code and Plaintiff State

phone_number	call_date	campaign
2132103055	4/4/2008	PB CHI DROP

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_start_date	pr_end_date	sec_start_date	sec_end_date	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
2132103055	2/16/2007	6/18/2009	2/24/2007	12/31/2199			8255909132745310	KWANG,WAN	Service	1425 E BOSTON DR		BOISE	ID	83706-5813
2132103055	6/19/2009	12/31/2199	6/19/2009	12/31/2199			8255909133579030	KWANG,WAN	Service	1425 E BOSTON DR		BOISE	ID	83706-5813

Note:
[1] This exhibit shows a phone number with a California area code (213) but with Idaho address records. The record highlighted in gray indicates the record that Dr.Yoeli considered in his analysis.

Source:
[1] Set 1A - EBRU (fed_tmy_ebru).

Exhibit 18
Group B Call Record
Lead Call Record Between Lead Record and Active Service Address

phone_number	call_date	campaign
2092393263	12/16/2008	5791_08W50_LTS_PHONE_ENGLISH

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_start_date	pr_end_date	sec_start_date	sec_end_date	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
2092393263	3/21/2009	12/31/2199	3/21/2009	12/31/2199			8255909761186190	PIASECKI,PETER	Service	716 BEARCLAW PL		MANTECA	CA	95336-8562

Set 2

phone_number	start_date	first_name	last_name	address	city	state	zipcode
2092393263	12/5/2008 19:18	PETER	PIASECKI		MANTECA	CA	953368562
2092393263	12/12/2012 7:02	PIASECKI	PETER		MANTECA	CA	953360000

Note:
[1] This exhibit shows an example of a Group B Call Record. In this case, there is a lead Call Record after a lead record followed by a service address where the state associated with the lead record and the service state match. The record highlighted in gray indicates the record that Dr.Yoeli considered in his analysis.

Sources:
[1] Set 1A - EBRU (fed_tmy_ebru).
[2] Set 2 - EBRU (fed_tmy_ebru).

Exhibit 19
Group C Call Record
Winback Call Record Between Two Active Service Addresses

phone_number	call_date	campaign
3238519500	12/15/2008	EC VOL TRAIL (22MTH)

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_start_date	pr_end_date	sec_start_date	sec_end_date	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
3238519500	5/11/2001	4/6/2007	5/11/2001	12/31/2199			8255909056776290	PERIGO,LINDA	Service	7285 FRANKLIN AVE APT F		LOS ANGELES	CA	90046-3024
3238519500	9/12/2011	12/31/2199	5/11/2001	12/31/2199			8255909056776290	PERIGO,LINDA	Service	7285 FRANKLIN AVE APT F	ATTN LINDA	LOS ANGELES	CA	90046-3024

Note:
[1] This exhibit shows an example of a Group C Call Record. In this case, there is a winback Call Record between two matching active service addresses.

Source:
[1] Set 1A - NDNCR (DTX903).

JA013397
012140

Exhibit 20
Group D Call Record
Winback Call After Location End Date

phone_number	call_date	campaign
4195630470	2/4/2009	EC_VWIN_TRL_20M_ENG

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_start_date	pr_end_date	sec_start_date	sec_end_date	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
4195630470	9/4/2002	6/18/2007	9/4/2002	12/31/2199	9/4/2002	12/31/2199	8255909363937690	SUKADA,KUNIE	Service	1131 WADE DR		BUCYRUS	OH	44820-3034

Note:
[1] This exhibit shows an example of a Group D Call Record. In this case, there is a winback call placed after the location end date in the Customer Account Data.

Source:
[1] Set 1A - NDNCR (DTX903).

Exhibit 21
Group D Call Record
Cold Call Prior to Location Begin Date

phone_number	call_date	campaign
2093688762	4/30/2008	5263_08W16_COLD_OTM_LIBERTAD

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_start_date	pr_end_date	sec_start_date	sec_end_date	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
2093688762	9/18/2009	5/22/2012	9/21/2009	12/31/2199	9/21/2009	12/31/2199	8255909762516490	JOHNSON,SHERLEY	Service	341 E LOCUST ST		LODI	CA	95240-2319
2093688762	5/23/2012	12/31/2199	9/21/2009	12/31/2199	9/21/2009	12/31/2199	8255909762516490	JOHNSON,SHERLEY	Service	341 E LOCUST ST		LODI	CA	95240-231

Note:
[1] This exhibit shows a Group D Call Record. In this case, there is a cold call prior to the location begin date in the Customer Account Data.

Source:
[1] Set 1A - NDNCR (DTX903).

Exhibit 22
Group E Call Record
Winback Call to Phone Number with Active Service Address

phone_number	call_date	campaign
2095311907	10/6/2007	HG 43MTH ACQ (ESP)

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_start_date	pr_end_date	sec_start_date	sec_end_date	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
2095311907	3/18/2001	9/9/2003	8/23/2000	12/31/2199			8255909054699480	FIGUEROA,JUAN	Service	952 OAK GROVE RD		MODESTO	CA	95351-7811
2095311907	9/10/2003	3/10/2006	8/23/2000	12/31/2199			8255909054699480	FIGUEROA,JUAN	Service	5032 SOAVE LN		SALIDA	CA	95368-9407
2095311907	3/11/2006	12/31/2199	8/23/2000	12/31/2199			8255909054699480	FIGUEROA,JUAN	Service	5032 SOAVE LN	UPDATE ADDRESS	SALIDA	CA	95368-9407

Note:
[1] This exhibit shows a winback Call Record made to a phone number associated with an active service address. The record highlighted in gray indicates the record that Dr.Yoeli considered in his analysis.

Source:
[1] Set 1A - Not Completed (DTX905).

Exhibit 23
Group E Call Record
Lead Call to Phone Number with Active Service Address

phone_number	call_date	campaign
2134553311	10/26/2009	10195_09W43_LTS_OTM

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_start_date	pr_end_date	sec_start_date	sec_end_date	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
2134553311	10/18/2009	1/26/2010	10/19/2009	12/31/2199	10/19/2009	12/31/2199	8255130010427980	LORCHER,JASON	Service	111 S GRAND AVE # 410		LOS ANGELES	CA	90012-3034
2134553311	1/27/2010	12/31/2199	10/19/2009	12/31/2199	10/19/2009	12/31/2199	8255130010427980	LORCHER,JASON	Service	1111 S GRAND AVE APT 410		LOS ANGELES	CA	90015-2167
2134553311	4/18/2011	12/31/2199	4/18/2011	12/31/2199			8255909754247120	LORCHER,JASON	Service	538 BROADWAY ST UNIT 1		VENICE	CA	90291-3310

Note:
[1] This exhibit shows a lead Call Record made to a phone number associated with an active service address. The record highlighted in gray indicates the record that Dr.Yoeli considered in his analysis.

Source:
[1] Set 1A - Inquiry (DTX907).

Exhibit 24
Group F Call Record
Lead Call Record After a Lead Address Record

phone_number	call_date	campaign
2092744121	7/10/2008	5418_08W27_LTS_OTM_ENGLISH_20080701

Set 2

phone_number	lead_creation_dttm	first_name	last_name	address	city	state	zipcode
2092744121	6/27/2008 18:22	CINDY	MAKEMSON	626 BROOKVIEW CT IONE	IONE	CA	956409507

Note:
[1] This exhibit shows a lead Call Record after a lead address record. The record highlighted in gray indicates the record that Dr.Yoeli considered in his analysis.

Source:
[1] Set 2 - Inquiry (DTX907).

Exhibit 25
Group G Call Record
Lead Call Record Matched to Other DISH Internal Data

phone_number	call_date	campaign
2092399137	1/25/2008	5146_08W04_LTS_OTM_ENGLISH_20080122

Set 6

phone_number	eff_date	exp_date	account_number	name	address1	address2	city	state	postal_code
2092399137	9/6/1999 14:06		8255909052631014	GREENBACH,DONNA	12139 E HIGHWAY 120		MANTECA	CA	95336
2092399137	6/8/2002 13:05		8255909570408614	KICHLINE,SUSAN	510 NORTHGATE DR APT 203		MANTECA	CA	95336

Note:
[1] This exhibit shows a lead Call Record that is matched to DISH's internal SalesComm database. Records highlighted in gray indicate records that Dr.Yoeli considered in his analysis.

Source:
[1] Set 6 - EBRU (fed_tmy_ebru).

Exhibit 26
Group G Call Record
Work Order Call Record Matched to Other DISH Internal Data

phone_number	call_date	campaign
8287334763	6/14/2008	5387_08W24_ATT_CANCELS

Set 2

phone_number	lead_creation_dttm	first_name	last_name	address	city	state	zipcode
8287334763	10/7/2010 14:05	DEBRAH	WHITSON		ELK PARK	NC	28622

Set 9

phone_number	csg_account_no	last_name	physical_address_line_1	physical_address_line_2	physical_city	physical_state	physical_zip_code
8287334763	8272150340045990	WHITSON,DEBRAH	140 RESTORATION WAY		ELK PARK	NC	28622-0000

Note:
[1] This exhibit shows a work order Call Record that is matched to Leads (Set 2) and Set 9 data. The record highlighted in gray indicates the record that Dr.Yoeli considered in his analysis.

Sources:
[1] Set 2 - EBRU (fed_tmy_ebru).
[2] Set 9 - EBRU (fed_tmy_ebru).

Exhibit 27
Group H Call Record
Automessage Call Record Associated with Multiple States

phone_number	call_date	campaign
3103751275	9/11/2007	AM 091107ARAB

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_phone_bgn_dt	pr_phone_end_dt	sec_phone_bgn_dt	sec_phone_end_dt	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
3103751275	3/18/2001	5/21/2012					8255909054116150	WU,DINANA	Service	1545 OAKHORNE DR		HARBOR CITY	CA	90710-1138
3103751275	6/23/2003	12/31/2199			6/28/2003	12/31/2199	8255909336095310	RYCHLEWSKI,HOLLIS	Service	78 GORMAN RD		KIRKWOOD	NY	13795-1701
3103751275	7/1/2003	12/31/2199			12/21/2008	12/31/2199	8255909312179430	LAPIERRE,MARY	Service	601 ANDERSON AVE		CLIFFSIDE PARK	NJ	07010-1830
3103751275	7/7/2003	12/31/2199			7/13/2003	12/31/2199	8255909336132370	BEST,CYNTHIA	Service	46 RANDALL RD		WINDSOR	NY	13865-2747
3103751275	5/22/2012	12/31/2199					8255909054116150	WU,DINANA	Service	1545 OAKHORNE DR		HARBOR CITY	CA	90710-113

Note:
[1] This exhibit shows a Group H Call Record. In this case, there is an automessage Call Record which could be associated with multiple active service addresses. Records highlighted in gray indicate records that Dr.Yoeli considered in his analysis.

Source:
[1] Set 1A - PX1410 (PX1410).

JA013405
012148

Exhibit 28
Group H Call Record
Lead Call Record Associated with Multiple States

phone_number	call_date	campaign
4089236333	8/8/2008	5478_08W31_LTS_OTM_ENGLISH_20080729

Set 1A

phone_number	location_begin_dt	location_end_dt	pr_phone_bgn_dt	pr_phone_end_dt	sec_phone_bgn_dt	sec_phone_end_dt	account_number	acnt_name	address_type	address_1	address_2	city	state	zipcode
4089236333	2/24/2015	12/31/2199	2/24/2015	12/31/2199			8255909915680490	MOORE,DARRYL	Service	2778 EVERSOLE DR		SAN JOSE	CA	95133-1403

Set 2

phone_number	lead_creation_dttm	first_name	last_name	address	city	state	zipcode
4089236333	7/22/2008				OLIVE BRANCH	MS	386548173

Note:
[1] This exhibit shows a Group H Call Record. In this case, a lead Call Record could be associated with multiple address records. The record highlighted in gray indicates the record that Dr.Yoeli considered in his analysis.

Sources:
[1] Set 1A - Inquiry (DTX907).
[2] Set 2 - Inquiry (DTX907).

Exhibit 29
Example of PossibleNOW Data Anomaly
Data Unsuitable for the Purpose of this Analysis

Stauffer Return Files[1]

Phone Number	Call Date	Stauffer 2012 Classification[2]	Source
208-656-9173	7/18/2009	R	calls0710_sample_1014a_PNResults_Final.csv

PossibleNOW Data: *vResidential* [3]

Phone Number	Last Name	First Name	Trans Date[4]	TelcoIssue Date[5]	Processed Date[6]	XactnCod[7]
208-656-9173	Parker	Brandon	10/3/2008	4/29/2003	10/13/2008	D
208-656-9173	Coray	Robert	7/18/2007	7/16/2007	1/24/2008	I
208-656-9173	Coray	Robert	10/11/2007	7/16/2007	1/25/2008	D
208-656-9173	Coray	Robert	10/11/2007	10/9/2007	1/25/2008	I
208-656-9173	Coray	Robert	2/9/2008	10/9/2007	2/22/2008	I
208-656-9173	Coray	Robert	10/22/2009	7/21/2008	11/17/2009	I
208-656-9173	Coray	Robert	9/27/2013	7/21/2008	9/29/2013	D
208-656-9173	Coray	Robert	9/27/2013	7/21/2008	9/29/2013	I

Notes:

[1] This table contains Mr Stauffer's classification from the Return Files associated with his 2012 Analysis for the phone number 208-656-9173

[2] Mr Stauffer determined each record to be either "B" (business), "R" (residential), or "W" (wireless) "NR" signifies a non-residential record Declaration of Rick Stauffer, October 16, 2012, p 4

[3] This table contains all records in the PossibleNOW *vResidential* database associated with the phone number 208-656-9173

[4] The *TransDate* "represents a date related to when that record was transmitted by the phone company into the system " Deposition of Richard A Stauffer, November 28, 2012, p 331

[5] The *TelcoIssueDate* "represents the date that number was assigned to a person" by the telephone company Deposition of Richard A Stauffer, November 28, 2012, p 331

[6] The *ProcessedDate* is "the date that [PossibleNOW] process[ed] the data into [its] database" and is not used in Mr Stauffer's analyses Deposition of Richard A Stauffer, November 28, 2012, p 339

[7] The *XactnCod* variable is assigned by the telephone company and represents whether the telephone company was inserting ("I") or deleting ("D") information from the directory Deposition of Richard A Stauffer, November 28, 2012, pp 337-338

Sources:

[1] Declaration of Rick Stauffer, October 16, 2012

[2] Deposition of Richard A Stauffer, November 28, 2012

[3] Database information from PossibleNOW, including conversations conducted with employees of PossibleNOW See also PossibleNOW, "Dish Data Analysis," August 2015

[4] Mr Stauffer's 2012 Return Files, received from counsel on May 26, 2015

[5] vResidential database, extracted from PossibleNOW on August 12, 2015

Exhibit 30
PossibleNOW Data for Phone Number in Exhibit 19

Phone Number	Call Date	Campaign
323-851-9500	12/15/2008	EC VOL TRAIL (22MTH)

PossibleNOW Data: *vBusiness* [1]

Phone Number	TransDate[2]	TelcoIssueDate[3]	XactnCod[4]	Business Name	Street Number	Street Pre-Directional	Street Name	Street Suffix	City	State	Zip Code
323-851-9500	02/09/2008	08/07/2006	I	Jerry Lee Henson EA Tax Service Inc	7805	W	Sunset	Blvd	Los Angeles	CA	90046-3311
323-851-9500	10/22/2009	07/09/2009	I	Jerry Lee Henson EA Tax Service Inc	7805	W	Sunset	Blvd	Los Angeles	CA	90046-3311
323-851-9500	02/27/2012	07/09/2009	D	Jerry Lee Henson EA Tax Service Inc	7805	W	Sunset	Blvd	Los Angeles	CA	90046-3311
323-851-9500	02/27/2012	07/09/2009	I	Jerry Lee Henson EA Tax Service Inc	7805	W	Sunset	Blvd	Los Angeles	CA	90046-3311

Note:

[1] This table contains all records in the PossibleNOW vResidential and vBusiness databases associated with the phone number 323-851-9500

[2] The *TransDate* "represents a date related to when that record was transmitted by the phone company into the system " Deposition of Richard A Stauffer, November 28, 2012, p 331

[3] The *TelcoIssueDate* "represents the date that number was assigned to a person" by the telephone company Deposition of Richard A Stauffer, November 28, 2012, p 331

[4] The *XactnCod* variable is assigned by the telephone company and represents whether the telephone company was inserting ("I") or deleting ("D") information from the directory Deposition of Richard A Stauffer, November 28, 2012, pp 337-338

Source:

[1] *vBusiness* database, extracted from PossibleNOW on August 12, 2015

[2] Deposition of Richard A Stauffer, November 28, 2012

Exhibit 31
PossibleNOW Data for Phone Number in Exhibit 27

Phone Number	Call Date	Campaign
310-375-1275	09/11/2007	AM 091107ARAB

PossibleNOW Data: *vResidential* [1]

Phone Number	TransDate[2]	TelcoIssueDate[3]	XactnCod[4]	First Name	Last Name	Street Number	Street Pre-Directional	Street Name	Street Suffix	City	State	Zip Code
310-375-1275	08/02/2010	08/01/2010	I	Gregg	Hagerman	1801	S	Catalina	Ave	Redondo Beach	CA	90277-5506
310-375-1275	01/05/2012	08/01/2010	D	Gregg	Hagerman	1801	S	Catalina	Ave	Redondo Beach	CA	90277-5506
310-375-1275	04/21/2012	04/20/2012	I	Spencer	Tomlinson	24065		Ocean	Ave	Torrance	CA	90505-6438
310-375-1275	08/10/2013	04/20/2012	D	Spencer	Tomlinson	24065		Ocean	Ave	Torrance	CA	90505-6438
310-375-1275	08/10/2013	05/16/2013	I	Spencer	Tomlinson	24065		Ocean	Ave	Torrance	CA	90505-6438

PossibleNOW Data: *vBusiness* [1]

Phone Number	TransDate[2]	TelcoIssueDate[3]	XactnCod[4]	Business Name	Street Number	Street Pre-Directional	Street Name	Street Suffix	City	State	Zip Code
310-375-1275	07/29/2009	01/01/1990	D	Gems Plus G Inc					Torrance	CA	
310-375-1275	02/09/2008	08/07/2006	I	Gems Plus G Inc					Torrance	CA	

Note:
[1] This table contains all records in the PossibleNOW vResidential and vBusiness databases associated with the phone number 310-375-1275
[2] The *TransDate* "represents a date related to when that record was transmitted by the phone company into the system " Deposition of Richard A Stauffer, November 28, 2012, p 331
[3] The *TelcoIssueDate* "represents the date that number was assigned to a person" by the telephone company Deposition of Richard A Stauffer, November 28, 2012, p 331
[4] The *XactnCod* variable is assigned by the telephone company and represents whether the telephone company was inserting ("I") or deleting ("D") information from the directory Deposition of Richard A Stauffer, November 28, 2012, pp 337-338

Source:
[1] *vResidential* and *vBusiness* databases, extracted from PossibleNOW on August 12, 2015
[2] Deposition of Richard A Stauffer, November 28, 2012

Exhibit 32.A
Example of Mr. Stauffer's Treatment of Deletes
Treatment Consistent with Mr. Stauffer's Stated Methodology

Stauffer Return Files[1]

Phone Number	Call Date	Stauffer 2012 Classification[2]	Source
205-339-3349	9/30/2009	NR	calls0710_sample_1014a_PNResults_Final.csv

PossibleNOW Data: *vResidential* [3]

Phone Number	Last Name	First Name	Trans Date[4]	TelcoIssue Date[5]	Processed Date[6]	XactnCod[7]
205-339-3349	Hagler	B	8/3/2006	3/9/2005	1/23/2008	I
205-339-3349	Hagler	B	8/10/2006	3/9/2005	1/23/2008	I
205-339-3349	Hagler	B	4/4/2007	3/9/2005	1/23/2008	I
205-339-3349	Hagler	B	11/3/2007	3/9/2005	1/25/2008	I
205-339-3349	Hagler	B	2/9/2008	3/9/2005	2/22/2008	I
205-339-3349	Hagler	B	7/20/2009	7/9/2008	7/20/2009	D
205-339-3349	Utley	Fillip	1/26/2010	1/25/2010	1/27/2010	I
205-339-3349	Utley	Fillip	3/13/2010	1/25/2010	3/15/2010	D
205-339-3349	Poe	Ericaa	1/19/2011	1/18/2011	1/19/2011	I
205-339-3349	Poe	Ericaa	6/7/2011	1/18/2011	6/8/2011	D

Notes:

[1] This table contains Mr Stauffer's classification from the Return Files associated with his 2012 Analysis for the phone number 205-339-3349

[2] Mr Stauffer determined each record to be either "B" (business), "R" (residential), or "W" (wireless) "NR" signifies a non-residential record Declaration of Rick Stauffer, October 16, 2012, p 4

[3] This table contains all records in the PossibleNOW *vResidential* database associated with the phone number 205-339-3349

[4] The *TransDate* "represents a date related to when that record was transmitted by the phone company into the system " Deposition of Richard A Stauffer, November 28, 2012, p 331

[5] The *TelcoIssueDate* "represents the date that number was assigned to a person" by the telephone company Deposition of Richard A Stauffer, November 28, 2012, p 331

[6] The *ProcessedDate* is "the date that [PossibleNOW] process[ed] the data into [its] database" and is not used in Mr Stauffer's analyses   Deposition of Richard A Stauffer, November 28, 2012, p 339

[7] The *XactnCod* variable is assigned by the telephone company and represents whether the telephone company was inserting ("I") or deleting ("D") information from the directory Deposition of Richard A Stauffer, November 28, 2012, pp 337-338

[8] Gray highlighting indicates the record that Mr Stauffer's stated methodology would classify as the "last" record prior to the call date In this case, the record is a delete Thus, according to Mr Stauffer's stated methodology, he should treat the record as non-residential, which he does

Sources:

[1] Declaration of Rick Stauffer, October 16, 2012

[2] Deposition of Richard A Stauffer, November 28, 2012

[3] Database information from PossibleNOW, including conversations conducted with employees of PossibleNOW   See also PossibleNOW, "Dish Data Analysis," August 2015

[4] Mr Stauffer's 2012 Return Files, received from counsel on May 26, 2015

[5] vResidential database, extracted from PossibleNOW on August 12, 2015

Exhibit 32.B
Example of Mr. Stauffer's Treatment of Deletes
Treatment Inconsistent with Mr. Stauffer's Stated Methodology

Stauffer Return Files[1]

Phone Number	Call Date	Stauffer 2012 Classification[2]	Source
208-465-9814	10/19/2009	R	calls0710_sample_1014a_PNResults_Final.csv

PossibleNOW Data: *vResidential* [3]

Phone Number	Last Name	First Name	Trans Date[4]	TelcoIssue Date[5]	Processed Date[6]	XactnCod[7]
208-465-9814	Aulbach	Katheen	8/3/2006	10/26/2005	1/23/2008	I
208-465-9814	Wilmot	Daniel	8/3/2006	10/26/2005	1/23/2008	I
208-465-9814	Aulbach	Katheen	8/10/2006	10/26/2005	1/23/2008	I
208-465-9814	Wilmot	Daniel	8/10/2006	10/26/2005	1/23/2008	I
208-465-9814	Aulbach	Katheen	4/4/2007	10/26/2005	1/23/2008	I
208-465-9814	Wilmot	Daniel	4/4/2007	10/26/2005	1/23/2008	I
208-465-9814	Aulbach	Katheen	2/9/2008	10/26/2005	2/22/2008	I
208-465-9814	Wilmot	Daniel	2/9/2008	10/26/2005	2/22/2008	I
208-465-9814	Wilmot	Daniel	10/27/2005	10/27/2005	1/30/2008	I
208-465-9814	Wilmot	Daniel	9/2/2009	7/21/2008	9/2/2009	D
208-465-9814	Aulbach	Katheen	10/22/2009	7/21/2008	11/17/2009	I
208-465-9814	Aulbach	Katheen	1/7/2010	7/21/2008	1/7/2010	D

Notes:

[1] This table contains Mr Stauffer's classification from the Return Files associated with his 2012 Analysis for the phone number 208-465-9814

[2] Mr Stauffer determined each record to be either "B" (business), "R" (residential), or "W" (wireless) "NR" signifies a non-residential record Declaration of Rick Stauffer, October 16, 2012, p 4

[3] This table contains all records in the PossibleNOW *vResidential* database associated with the phone number 208-465-9814

[4] The *TransDate* "represents a date related to when that record was transmitted by the phone company into the system " Deposition of Richard A Stauffer, November 28, 2012, p 331

[5] The *TelcoIssueDate* "represents the date that number was assigned to a person" by the telephone company Deposition of Richard A Stauffer, November 28, 2012, p 331

[6] The *ProcessedDate* is "the date that [PossibleNOW] process[ed] the data into [its] database" and is not used in Mr Stauffer's analyses Deposition of Richard A Stauffer, November 28, 2012, p 339

[7] The *XactnCod* variable is assigned by the telephone company and represents whether the telephone company was inserting ("I") or deleting ("D") information from the directory Deposition of Richard A Stauffer, November 28, 2012, pp 337-338

[8] Gray highlighting indicates the record that Mr Stauffer's stated methodology would classify as the "last" record prior to the call date In this case, the record is a delete Thus, according to Mr Stauffer's stated methodology, he should treat the record as non-residential

Sources:

[1] Declaration of Rick Stauffer, October 16, 2012

[2] Deposition of Richard A Stauffer, November 28, 2012

[3] Database information from PossibleNOW, including conversations conducted with employees of PossibleNOW See also PossibleNOW, "Dish Data Analysis," August 2015

[4] Mr Stauffer's 2012 Return Files, received from counsel on May 26, 2015

[5] vResidential database, extracted from PossibleNOW on August 12, 2015

Exhibit 33.A
Example of Mr. Stauffer's Treatment of Inserts and Deletes on the Same Day
Treatment Inconsistent and Not Explained in Mr. Stauffer's Stated Methodology

Stauffer Return Files[1]

Phone Number	Call Date	Stauffer 2012 Classification[2]	Source
419-425-5225	5/14/2009	R	calls0710_sample_1014a_PNResults_Final.csv

PossibleNOW Data: *vResidential* [3]

Phone Number	Last Name	First Name	Trans Date[4]	TelcoIssue Date[5]	Processed Date[6]	XactnCod[7]
419-425-5225	Tarris	Elizabeth	8/28/2012	1/1/1990	8/30/2012	I
419-425-5225	Tarris	Elizabeth	8/24/2013	1/1/1990	8/26/2013	D
419-425-5225	Tarris	E	9/7/2006	9/5/2006	1/23/2008	I
419-425-5225	Tarris	E	2/27/2007	9/5/2006	1/23/2008	D
419-425-5225	Tarris	E	9/6/2006	9/6/2006	1/30/2008	I
419-425-5225	Tarris	E	2/27/2007	2/23/2007	1/23/2008	I
419-425-5225	Tarris	E	4/4/2007	2/23/2007	1/23/2008	I
419-425-5225	Tarris	E	7/9/2007	2/23/2007	1/24/2008	I
419-425-5225	Tarris	E	12/19/2007	2/23/2007	1/25/2008	I
419-425-5225	Tarris	E	2/9/2008	2/23/2007	2/22/2008	I
419-425-5225	Tarris	E	3/8/2008	1/28/2008	3/18/2008	I
419-425-5225	Tarris	E	4/27/2009	1/28/2008	4/27/2009	D
419-425-5225	Tarris	Elizabeth	4/27/2009	4/24/2009	4/27/2009	D
419-425-5225	Tarris	Elizabeth	4/27/2009	4/24/2009	4/27/2009	I
419-425-5225	Tarris	Elizabeth	9/25/2009	4/24/2009	9/25/2009	D
419-425-5225	Tarris	Elizabeth	9/25/2009	9/24/2009	9/25/2009	I
419-425-5225	TARRIS	ELIZABETH	10/22/2009	9/24/2009	11/17/2009	I
419-425-5225	TARRIS	ELIZABETH	2/6/2010	9/24/2009	2/8/2010	D
419-425-5225	Tarris	Elizabeth	2/6/2010	9/24/2009	2/8/2010	I
419-425-5225	Tarris	Elizabeth	8/30/2010	9/24/2009	8/30/2010	D

Notes:

[1] This table contains Mr Stauffer's classification from the Return Files associated with his 2012 Analysis for the phone number 419-425-5225

[2] Mr Stauffer determined each record to be either "B" (business), "R" (residential), or "W" (wireless) "NR" signifies a non-residential record Declaration of Rick Stauffer, October 16, 2012, p 4

[3] This table contains all records in the PossibleNOW *vResidential* database associated with the phone number 419-425-5225

[4] The *TransDate* "represents a date related to when that record was transmitted by the phone company into the system " Deposition of Richard A Stauffer, November 28, 2012, p 331

[5] The *TelcoIssueDate* "represents the date that number was assigned to a person" by the telephone company Deposition of Richard A Stauffer, November 28, 2012, p 331

[6] The *ProcessedDate* is "the date that [PossibleNOW] process[ed] the data into [its] database" and is not used in Mr Stauffer's analyses Deposition of Richard A Stauffer, November 28, 2012, p 339

[7] The *XactnCod* variable is assigned by the telephone company and represents whether the telephone company was inserting ("I") or deleting ("D") information from the directory Deposition of Richard A Stauffer, November 28, 2012, pp 337-338

[8] Gray highlighting indicates the record that Mr Stauffer's stated methodology would classify as the "last" record prior to the call date In this case, the last record includes a delete and an insert Thus, it is unclear how this record should be classified

Sources:

[1] Declaration of Rick Stauffer, October 16, 2012

[2] Deposition of Richard A Stauffer, November 28, 2012

[3] Database information from PossibleNOW, including conversations conducted with employees of PossibleNOW See also PossibleNOW, "Dish Data Analysis," August 2015

[4] Mr Stauffer's 2012 Return Files, received from counsel on May 26, 2015

[5] vResidential database, extracted from PossibleNOW on August 12, 2015

Exhibit 33.B
Example of Mr. Stauffer's Treatment of Inserts and Deletes on the Same Day
Treatment Inconsistent and Not Explained in Mr. Stauffer's Stated Methodology

Stauffer Return Files[1]

Phone Number	Call Date	Stauffer 2012 Classification[2]	Source
212-368-3342	6/12/2010	NR	defender_sample_PNResults_Final.csv

PossibleNOW Data: *vResidential* [3]

Phone Number	Last Name	First Name	Trans Date[4]	TelcoIssue Date[5]	Processed Date[6]	XactnCod[7]
212-368-3342	Mc	Kenzie-Foste	6/10/2008	6/8/2008	6/10/2008	I
212-368-3342	Mc Kenzie-Fo	Judith	10/22/2009	5/20/2009	11/17/2009	I
212-368-3342	Mc Kenzie-Fo	Judith	1/26/2010	5/20/2009	1/26/2010	D
212-368-3342	McKenzie	Foster	1/26/2010	12/5/2009	1/26/2010	I
212-368-3342	McKenzie	Foster	3/16/2010	12/5/2009	3/17/2010	D
212-368-3342	McKenzie-Fos	Judith	3/16/2010	12/5/2009	3/17/2010	I
212-368-3342	McKenzie-Fos	Judith	10/4/2010	12/5/2009	10/5/2010	D

Notes:
[1] This table contains Mr. Stauffer's classification from the Return Files associated with his 2012 Analysis for the phone number 212-368-3342.
[2] Mr. Stauffer determined each record to be either "B" (business), "R" (residential), or "W" (wireless). "NR" signifies a non-residential record. Declaration of Rick Stauffer, October 16, 2012, p. 4.
[3] This table contains all records in the PossibleNOW *vResidential* database associated with the phone number 212-368-3342.
[4] The *TransDate* "represents a date related to when that record was transmitted by the phone company into the system." Deposition of Richard A. Stauffer, November 28, 2012, p. 331.
[5] The *TelcoIssueDate* "represents the date that number was assigned to a person" by the telephone company. Deposition of Richard A. Stauffer, November 28, 2012, p. 331.
[6] The *ProcessedDate* is "the date that [PossibleNOW] process[ed] the data into [its] database" and is not used in Mr. Stauffer's analyses. Deposition of Richard A. Stauffer, November 28, 2012, p. 339.
[7] The *XactnCod* variable is assigned by the telephone company and represents whether the telephone company was inserting ("I") or deleting ("D") information from the directory. Deposition of Richard A. Stauffer, November 28, 2012, pp. 337-338.
[8] Gray highlighting indicates the record that Mr. Stauffer's stated methodology would classify as the "last" record prior to the call date. In this case, the last record includes a delete and an insert. Thus, it is unclear how this record should be classified.

Sources:
[1] Declaration of Rick Stauffer, October 16, 2012.
[2] Deposition of Richard A. Stauffer, November 28, 2012.
[3] Database information from PossibleNOW, including conversations conducted with employees of PossibleNOW. See also PossibleNOW, "Dish Data Analysis," August 2015.
[4] Mr. Stauffer's 2012 Return Files, received from counsel on May 26, 2015.
[5] vResidential database, extracted from PossibleNOW on August 12, 2015.

Exhibit 34
Example of Mr. Stauffer's Treatment of *TransDate*
Treatment Inconsistent with Mr. Stauffer's Stated Methodology

Stauffer Return Files[1]

Phone Number	Call Date	Stauffer 2012 Classification[2]	Source
315-639-3296	12/12/2003	R	Calls0307_revised105_PNResults_Final.csv

PossibleNOW Data: *vResidential* [3]

Phone Number	Last Name	First Name	Trans Date[4]	TelcoIssue Date[5]	Processed Date[6]	XactnCod[7]
315-639-3296	Tanner	Edwin	8/3/2006	2/8/1998	1/23/2008	I
315-639-3296	Tanner	Edwin	8/10/2006	2/8/1998	1/23/2008	I
315-639-3296	Tanner	Edwin	11/14/2006	2/8/1998	1/23/2008	I
315-639-3296	Tanner	Edwin	4/4/2007	2/8/1998	1/23/2008	I
315-639-3296	Tanner	Edwin	7/11/2007	2/8/1998	1/24/2008	I
315-639-3296	Tanner	Edwin	8/8/2007	2/8/1998	1/25/2008	I
315-639-3296	Tanner	Edwin	10/18/2007	11/1/2006	1/25/2008	I
315-639-3296	Tanner	Edwin	10/29/2007	11/1/2006	1/25/2008	D
315-639-3296	Desormo	Rich	1/9/2009	1/8/2009	1/9/2009	I
315-639-3296	Desormo	Rich	8/3/2009	1/8/2009	8/3/2009	D
315-639-3296	Lee	Ryan	2/25/2010	2/22/2010	2/26/2010	I
315-639-3296	Lee	Ryan	12/28/2012	2/22/2010	1/2/2013	D
315-639-3296	Lee	Ryan	12/28/2012	4/25/2012	1/2/2013	I

Notes:

[1] This table contains Mr Stauffer's classification from the Return Files associated with his 2012 Analysis for the phone number 315-639-3296

[2] Mr Stauffer determined each record to be either "B" (business), "R" (residential), or "W" (wireless) "NR" signifies a non-residential record Declaration of Rick Stauffer, October 16, 2012, p 4

[3] This table contains all records in the PossibleNOW *vResidential* database associated with the phone number 315-639-3296

[4] The *TransDate* "represents a date related to when that record was transmitted by the phone company into the system " Deposition of Richard A Stauffer, November 28, 2012, p 331

[5] The *TelcoIssueDate* "represents the date that number was assigned to a person" by the telephone company Deposition of Richard A Stauffer, November 28, 2012, p 331

[6] The *ProcessedDate* is "the date that [PossibleNOW] process[ed] the data into [its] database" and is not used in Mr Stauffer's analyses Deposition of Richard A Stauffer, November 28, 2012, p 339

[7] The *XactnCod* variable is assigned by the telephone company and represents whether the telephone company was inserting ("I") or deleting ("D") information from the directory Deposition of Richard A Stauffer, November 28, 2012, pp 337-338

[8] According to Mr Stauffer's stated methodology, none of these records would classify as the "last" record prior to the call date Thus, according to Mr Stauffer's stated methodology, he should treat the record as non-residential

Sources:

[1] Declaration of Rick Stauffer, October 16, 2012

[2] Deposition of Richard A Stauffer, November 28, 2012

[3] Database information from PossibleNOW, including conversations conducted with employees of PossibleNOW See also PossibleNOW, "Dish Data Analysis," August 2015

[4] Mr Stauffer's 2012 Return Files, received from counsel on May 26, 2015

[5] vResidential database, extracted from PossibleNOW on August 12, 2015

APPENDIX A
CURRICULUM VITAE AND EXPERT TESTIMONY

REBECCA KIRK FAIR
Managing Principal

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rebecca.kirkfair@analysisgroup.com | Boston, MA 02199

Ms. Kirk Fair has conducted economic analysis and managed case teams in support of academic experts in a broad range of cases, including intellectual property, false advertising, tax, class certification, and major antitrust litigation. In addition, she has served as an expert witness in matters involving corporate valuation, patent infringement analyzing both lost profits and reasonable royalty damages, breach of contract damages, and trademarks. She has also served as an expert witness in matters involving the design and implementation of consumer surveys, as well as the evaluation of plaintiffs' surveys and statistical sampling and analyses. Ms. Kirk Fair has supported academic experts in undertaking analyses of and surveys related to consumer perception, feature value, and marketing procedures in connection with IP and antitrust disputes, as well as fraudulent claims suits and trademark matters. She has been invited to speak in front of the American Bar Association and the New York State Bar Association on survey and competition issues.

Ms. Kirk Fair has extensive experience in the development, administration, and analysis of surveys in antitrust, false advertising, and intellectual property matters, as well as strategy cases. She has supported the design and implementation of online, mall-intercept, and telephone surveys using a variety of methodologies, including conjoint and experimental designs. Ms. Kirk Fair has supported academic experts in prominent antitrust cases involving allegations of multinational and domestic cartels in the technology, consumer products, and finance industries, as well as allegations of monopolization and price-fixing in both the financial services and IT industries. In particular, she has assisted with quantitative analyses and market research examining the consistency of plaintiffs' claims in the defense of multiple class certification matters in the financial services industry for payment card clients and several major brokerage houses. In *Discover v. MasterCard* and *American Express v. Visa, MasterCard, and Issuing Banks*, she oversaw multiple analyses in support of experts assessing damages and market equilibrium.

EXPERT TESTIMONY

- ***U.S. and the States of California, Illinois, North Carolina and Ohio v. DISH Network, LLC***
  Expert witness on behalf of Dish. Submitted an expert report evaluating the sampling methodology and statistical analysis put forth by plaintiffs' expert witness. Testified at deposition.
- ***Smartphone Technologies LLC v. Research in Motion Corp., et al.***
  Expert witness on behalf of Apple, Inc. in a patent infringement case. Reviewed and evaluated the plaintiff's expert reports in connection with an online survey. Testified at deposition. (Eastern District of Texas – Tyler Division)
- ***John A. Gentile et al. v. Pasquale David Rosette and Douglas Bachelor***
  Expert witness in a fair value dispute for a privately held software company. Analyzed the effect of debt conversion on minority stockholders in both an affirmative and a rebuttal report. Testified at deposition and at trial. (The Court of Chancery of the State of Delaware in and for New Castle County)

- ***Curt Schlesinger et al. v. Ticketmaster***
  Prepared two expert declarations assessing the potential reach of the proposed settlement, its value to the class, and redemption and attrition rates over the settlement period.

SELECTED CONSULTING EXPERIENCE

Class Certification Litigation

- ***Light Cigarettes Marketing Litigations***
  Worked with plaintiffs in class action lawsuits in California, Massachusetts, and Missouri filed against the makers of "light" cigarettes. Supported marketing expert Joel Steckel to conduct conjoint analyses of consumer preference of light tobacco and nicotine in connection with a damages analysis.
- ***MasterCard Litigations***
  Assisted in economic analysis on behalf of MasterCard in government and consumer litigations, including several class actions. Supported design and analysis of consumer survey regarding the use of various payment methods. Supported counsel in all phases of trial, including the development of direct testimony, trial demonstratives, and cross-examination questions.
- ***Air Cargo Litigations***
  Evaluated industry dynamics, transaction data, and damages exposure for several Air Cargo defendants, including an evaluation of impact of plea agreements. Marketplace analysis included comparison of pricing patterns in areas covered and excluded from plea agreements.
- ***Antitrust Litigation in the Transportation Sector***
  Casework included assisting with settlement negotiations and developing affirmative analyses in connection with on-going class certification proceedings, on behalf of the defendants.
- ***Auto Parts Litigation***
  Supported affirmative and rebuttal analyses for an indirect purchaser class action in an auto filters cartel case. Analyzed wholesale and retail transaction data, evaluated pass-through, and calculated firm and product profitability.

Survey-related Litigation

- ***Berlex Laboratories, Inc. v. Biogen, Inc.***
  Supported expert witness in the determination of a reasonable royalty related damages claim in a patent infringement case in the pharmaceutical industry. Assisted in the design and analysis of a market research survey of multiple sclerosis patients for use in damages model. (United States District Court, District of Massachusetts)
- ***Large patent infringement suits in online retail industry***
  Assisted in the design, implementation, and analysis of a survey to demonstrate that patented technologies provided substantial value to online retailers. In a similar ongoing matter, demonstrated the consumer impact of a copyrighted feature that provides functionality to a consumer electronics product.

- ***Commercial litigation and damages case in online retail industry***
  Assisted in the assessment of the impact on consumer purchase behavior and price recall of allegedly misleading measures, including advertising language, in a commercial litigation and damages case. Supported field experiments and lab experiments and analysis to assess consumer interpretation of comparison pricing language.

- ***Trademark infringement matter of athletic apparel company***
  Supported marketing expert Joel Steckel in a trademark infringement case in which an athletic apparel company claimed that a sports drink maker infringed on its trademark and diluted its brand.

- ***Trademark dispute in music services***
  Developed, designed, and launched a pilot study in a trademark dispute to evaluate respondent perception by customer segment.

- ***Trademark infringement matter of a candy company***
  Supported marketing expert Joel Steckel in a trademark infringement case in front of the TTAB in which a candy company was trying to bar entry of a foreign competitor which infringed on its trademark and may have diluted its brand.

- ***Trademark infringement matter in apparel industry***
  Supported marketing expert Joel Steckel in designing and implementing a reverse confusion survey in a trademark infringement case in which an apparel company claimed that an athletic company infringed on its design mark.

- ***Antitrust case in the credit card industry***
  Supported marketing expert John Hauser in rebutting an opposing expert's survey by showing that small methodological improvements to the original survey lead to substantial differences in results in a case involving credit card payment procedures.

- ***Fox Broadcasting Company et al. v. DISH Network LLC et al.***
  Supported marketing expert John Hauser in designing and implementing two surveys pertaining to use of television services as well as in analyzing an array of industry data. After more than two years of litigation, a California federal judge found that Analysis Group client DISH's Hopper DVR does not infringe Fox's copyrights.

- ***Trademark infringement matter in the food industry***
  Supported marketing expert Joel Steckel in designing a forward confusion and two reverse confusion surveys and implementing the forward confusion survey in a trademark infringement case in which an author / speaker claimed that the title of his book was inappropriately used in a TV commercial of a packaged food product.

- ***Confusion matter in the entertainment industry***
  Supported marketing expert Joel Steckel in a trademark infringement case in which a TV company used a name for its show (and a company featured in the show), similar to the name of an existing company; assisted with design of forward and reverse confusion surveys.

Antitrust Litigation

- ***Large price-fixing cases in IT manufacturing industries***
  Assisted in quantitative analysis and industry research to evaluate competition, pricing, and outputs in connection with two separate international price-fixing investigations in IT manufacturing industries.
- ***Large price-fixing cases in various sectors of the financial service industry***
  Assisted in quantitative analysis and market research to examine consistency of plaintiffs in multiple class certification matters.
- ***Microsoft litigations in various forums***
  Economic analysis on behalf of Microsoft in numerous competitor and consumer litigations on issues of competition, pricing, and damages. Supported survey design and research related to server software. Developed and critiqued damages models related to computer security, software pricing, and product development.

Intellectual Property Litigation

- ***T-Netix, Inc. v. MCI WorldCom Communications, Inc. and Global Tel*Link Corp.***
  Supported expert witness in all aspects of expert report preparation and deposition testimony in the estimation of lost profits and reasonable royalty damages from alleged infringement of patents related to prison phone systems. (United States District Court, Eastern District of Texas, Marshall Division)
- ***Burst.com v. Microsoft Corp.***
  Assisted in an analysis of both patent and trade secrets damages and antitrust damages in a case involving software used for streaming media. Responded to plaintiff's claim of lost profits damages and unjust enrichment arising from the misappropriation of trade secrets. (U.S. District Court, District of Maryland)
- ***Gary Kosseff v. James Ciocia et al.***
  Supported expert witness in the determination of fair market value of assets sold in a private transaction. Assisted expert in assessment and valuation of comparable companies and rebuttal testimony. (The Court of Chancery of the State of Delaware in and for New Castle County)
- ***Adelson, et al., v. Adelson***
  Assisted in the valuation of a family business involving COMDEX. Assisted expert and counsel in deposition and trial testimony. (Massachusetts Superior Court, Middlesex County)
- ***KX Industries, L.P. and Koslow Technologies Corporation v. Culligan Water Technologies, Inc., and Plymouth Products Inc.***
  Assisted expert in all aspects of report preparation, deposition preparation, and trial preparation in the estimation of damages stemming from lost profits, royalties, and price erosion claims in patent infringement claim pertaining to water filtration products. (United States District Court, District of Delaware)
- ***Plastics Research Corporation, Inc. v. Brite Millwork, Inc.***
  Assisted in the development of a damages model to calculate lost profits, reasonable royalty, and price erosion damages from alleged infringement of a patent related to injection molded

lattice products. (United States District Court, Eastern District of Michigan, Southern Division)

- ***Molten Metal Equipment Innovation, Inc. v. Metaullics***
  Supported expert witness in the determination of lost profits, reasonable royalty, and prejudgment interest covering a patent directed to submersible molten metal pumps. (United States District Court, Northern District of Ohio)

- ***Fonar Corporation v. Magnetic Resonance Plus, Inc.***
  Supported expert witness in a product tying evaluation of the imaging market to assess the competitive nature of service contracts. (U.S. District Court, Southern District of New York)

Transfer Pricing Litigation

- ***Glaxo Americas, et al. v. Internal Revenue Service***
  Supported expert in econometric analysis and evaluation of pharmaceutical marketing in the pharmaceutical industry. Case settled. (United States Tax Court)

- ***AstraZeneca, et al. v. Her Majesty's Revenue and Customs***
  Supported consulting expert team on pharmaceutical valuation and licensing issues. Case settled. (United States Tax Court)

SELECTED PRESENTATIONS AND SPEAKING ENGAGEMENTS

"The Next Frontiers: Social Media and Other Cutting Edge Issues in Advertising and Marketing," Canadian Bar Association Competition Law Fall Conference, October 2, 2015

"Is False Advertising Anticompetitive," American Bar Association Antitrust Section Spring Meeting, Washington DC, April 17, 2015

"Antitrust Enforcement and the Bazaarvoice Case," New York State Bar Association Antitrust Law Section panel, May 21, 2014

"Branding & Brands in Law, Accounting & Marketing," The Kenan Institute, University of North Carolina, April 12, 2012

"Calculating and Presenting Damages in Patent Infringement Matters," February 2, 2010

"Reverse Payments – Balancing IP and Antitrust Concerns," Boston Bar Association, May 20, 2009

Discussion and guided case study analysis on strategic planning and financial analysis with an emphasis on the use of historical financial data in monitoring a public company, DirectWomen Board Institute, February 22, 2008

"Survey Analysis Report," First Annual Business Technology Outlook, North Dallas Chamber of Commerce, October 24, 2007

"Patent Holding Company Panel," Streaming Media East Show, New York City, May 15, 2007

"Innovative Application of Economic Methods," Analysis Group seminar on patent damages, March 2007

"Data & Discovery – The Economist's Perspective," Analysis Group seminar, May 10, 2005

PUBLICATIONS

"Antitrust Enforcement in Two-Sided Markets," with Juliette Caminade, Federico Mantovanelli and David Toniatti, *American Bar Association Section of Antitrust Law Economics Committee Newsletter,* Winter 2016.

"3 Questions to Ask When Using Surveys in Litigation," with Laura O'Laughlin, *Law360,* May 15, 2015.

"Is It Worth Anything? Using Surveys in Intellectual Property Cases," with Joel Steckel and Rene Befurt, *white paper.*

"Tools for Handling Mortgage-Based FCA Claims," with David Mishol, *Law360*, September 26, 2012.

"Digital Media Patents for Profit," with Dan Rayburn and Almudena Arcelus, *Streaming Media Magazine: Industry Sourcebook 2007*.

PROFESSIONAL AFFILIATIONS

ABA (American Bar Association)

Section of Antitrust Law

Section of Intellectual Property Law

American Marketing Association (AMA)

Women's Competition Network (WCN)

EDUCATION

M.B.A.	Sloan School of Management, Massachusetts Institute of Technology, Cambridge, MA
B.A.	Economics (with honors), Middlebury College, Middlebury, VT

APPENDIX B
MATERIALS CONSIDERED

Appendix B

Materials Considered

Legal Documents and Reports

Legal Documents and Communications

Complaint, *United States of America and the States of California, Illinois, North Carolina, and Ohio v. DISH Network LLC*, United States District Court for the Central District of Illinois Springfield Division, Case No. 3:09-cv-03073, March 25, 2009.

Letter from Jinsook Ohta, Deputy Attorney General of the State of California (for Kamala D. Harris, Attorney General of the State of California) to Peter A. Bicks, Orrick, Herrington & Sutcliffe, LLP, re: *United States et al. v. Dish Network,* 09-cv-3073-SEM-BGC, April 16, 2015.

Letter from Kamala D. Harris to Peter Bicks, Elyse Echtman, and John Ewald, Re: United States et. al. v. Dish Network, November 18, 2015.

Memorandum of Law in Support of State Plaintiffs' Motion *In Limine* Regarding Supplementation Under Rule 26e, *United States of America and the States of California, Illinois, North Carolina, and Ohio v. DISH Network LLC,* 3:09-cv-03073-SEM-TSH, April 23, 2015.

Opinion, *United States of America and the States of California, Illinois, North Carolina, and Ohio v. Dish Network LLC*, No. 09-3073, December 12, 2014.

Opinion, *United States of America and the States of California, Illinois, North Carolina, and Ohio v. Dish Network LLC*, No. 09-3073, February 17, 2015.

Plaintiffs' Requests for Production Pursuant to Opinion 624, *United States of America and the States of California, Illinois, North Carolina, and Ohio v. DISH Network LLC*, 3:09-cv-03073-SEM-BGC, March 4, 2016.

State Plaintiffs' Post-Trial Proposed Conclusions of Law, *United States of America and the States of California, Illinois, North Carolina, and Ohio v. DISH Network LLC*, 3:09-cv-03073-SEM-BGC, April 29, 2016.

State Plaintiffs' Response to the Court's May 11, 2016 Text Order and Motion for Proposed Discovery Schedule, *United States of America and the States of California, Illinois, North Carolina, and Ohio v. DISH Network LLC*, 3:09-cv-03073-SEM-BGC, June 8, 2016.

Third Amended Complaint and Demand for Jury Trial, *United States of America and the States of California, Illinois, North Carolina, and Ohio v. DISH Network LLC*, 3:09-cv-03073-SEM-BGC, February 27, 2015.

Declarations and Reports of Ms. Kirk Fair

Rebuttal Expert Report of Rebecca Kirk Fair, *United States of America and the States of California, Illinois, North Carolina, and Ohio v. DISH Network LLC*, 3:09-cv-03073-SEM-TSH, September 15, 2015.

Declaration of Rebecca Kirk Fair, *United States of America and the States of California, Illinois, North Carolina, and Ohio v. DISH Network LLC*, 3:09-cv-03073-SEM-TSH, November 5, 2015.

Declarations and Reports of Dr. Yoeli

Revised Supplemental Expert Report of Dr. Erez Yoeli for Plaintiff States of California, Illinois, North Carolina & Ohio, *United States of America and the States of California, Illinois, North Carolina, and Ohio v. DISH Network LLC*, Case No. 3:09-cv-03073, July 7, 2016.

Supplemental Expert Report of Dr. Erez Yoeli for Plaintiff States of California, Illinois, North Carolina & Ohio, *United States of America and the States of California, Illinois, North Carolina, and Ohio v. DISH Network LLC*, Case No. 3:09-cv-03073, July 5, 2016.

Declaration of Dr. Erez Yoeli, *United States of America and the States of California, Illinois, North Carolina, and Ohio v. DISH Network LLC*, 3:09-cv-03073-SEM-BGC, March 5, 2014.

Declaration of Dr. Erez Yoeli, *United States of America and the States of California, Illinois, North Carolina, and Ohio v. DISH Network LLC*, 3:09-cv-03073-SEM-BGC, December 18, 2013.

Supplemental Expert Report of Dr. Erez Yoeli, *United States of America and the States of California, Illinois, North Carolina, and Ohio v. DISH Network LLC*, 3:09-cv-03073-SEM-BGC, October 14, 2013, revised October 21, 2013.

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APPENDIX C
CAMPAIGN CATEGORIZATION

Appendix C
Intended Audience and Call Types by DISH Campaign

Campaign	Intended Audience	Call Type	Source
10045_09W39_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10049_09W39_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10060_09W39_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10061_09W39_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10065_09W39_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10066_09W39_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10072_09W39_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10073_09W39_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10076_09W40_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10077_09W40_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10080_09W40_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10081_09W40_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10086_09W40_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10087_09W40_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10092_09W40_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10093_09W40_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10096_09W40_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10097_09W40_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10108_09W40_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10109_09W40_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10113_09W40_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10114_09W40_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10117_09W41_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10118_09W41_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10121_09W41_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10122_09W41_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10126_09W41_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10127_09W41_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10131_09W41_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10132_09W41_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10143_09W41_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10144_09W41_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10147_09W41_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10148_09W41_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10151_09W41_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10152_09W41_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10155_09W42_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10156_09W42_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10159_09W42_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10160_09W42_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10169_09W42_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10170_09W42_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10174_09W42_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10175_09W42_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10183_09W42_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10184_09W42_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10188_09W42_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10189_09W42_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10194_09W43_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10195_09W43_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10202_09W43_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10203_09W43_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10209_09W43_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10210_09W43_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10213_09W43_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10214_09W43_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10223_09W43_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10224_09W43_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10232_09W43_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10233_09W43_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10239_09W43_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10240_09W43_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10244_09W43_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10245_09W43_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10248_09W44_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10249_09W44_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10252_09W44_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10253_09W44_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10259_09W44_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10260_09W44_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10267_09W44_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10268_09W44_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10276_09W44_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10277_09W44_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10280_09W44_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10281_09W44_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.

Campaign	Intended Audience	Call Type	Source
10286_09W44_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10287_09W44_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10293_09W45_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10294_09W45_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10297_09W45_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10298_09W45_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10302_09W45_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10303_09W45_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10310_09W45_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10311_09W45_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10319_09W45_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10320_09W45_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10325_09W45_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10326_09W45_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10330_09W46_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10331_09W46_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10335_09W46_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10336_09W46_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10349_09W46_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10350_09W46_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10358_09W46_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10359_09W46_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10365_09W46_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10366_09W46_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10376_09W46_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10377_09W46_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10383_09W46_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10384_09W46_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10388_09W47_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10389_09W47_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10393_09W47_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10394_09W47_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10401_09W47_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10402_09W47_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10410_09W47_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10411_09W47_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10417_09W47_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10418_09W47_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10428_09W47_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10429_09W47_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10435_09W47_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10436_09W47_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10440_09W48_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10441_09W48_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10454_09W48_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10455_09W48_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10460_09W48_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10461_09W48_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10534_09W50_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10596_10W04_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10648_10W07_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10654_10W08_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10672_10W09_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10673_10W09_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10677_10W09_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10678_10W09_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10681_10W09_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10685_10W09_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10686_10W09_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10691_10W09_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10692_10W09_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10695_10W10_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10696_10W10_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10700_10W10_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10704_10W10_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10705_10W10_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10709_10W10_LTS_GG_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
10710_10W10_LTS_OTM	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
1234_08W45_COLD_OTM	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
1234_08W49_COLD_OTM	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
1234_08W50_COLD_OTM	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
1234_08W51_COLD_OTM	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
1234_08W52_COLD_OTM	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
1234_08W53_COLD_OTM	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5018_07W49_INTL_TRIGGER_CHINESE_X_TAIWANESE	Other Telemarketing	Other	-
5088_07W51_COLD_OTM_QUAD1	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5089_07W51_LTS_OTM_ENGLISH_20071220	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5091_07W52_LTS_OTM_ENGLISH_20071226	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5110_07W52_LTS_OTM_ENGLISH_20071228	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.

Campaign	Intended Audience	Call Type	Source
5115_07W53_LTS_OTM_ENGLISH_20071231	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5118_07W52_COLD_OTM_2ND	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5121_08W01_LTS_OTM_ENGLISH_20080103	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5122_08W01_COLD_OTM	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5131_08W02_LTS_OTM_ENGLISH_20080108	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5133_08W02_LTS_OTM_ENGLISH_20080110	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5134_08W02_COLD_OTM_LIBERTAD	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5137_08W03_LTS_OTM_ENGLISH_20080115	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5140_08W03_LTS_OTM_ENGLISH_20080117	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5142_08W03_COLD_OTM_LIBERTAD	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5146_08W04_LTS_OTM_ENGLISH_20080122	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5147_08W04_COLD_OTM_RIVERFRONT	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5149_08W04_XCLD_WO_ATT20080123	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
5150_08W04_LTS_OTM_ENGLISH_20080124	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5151_08W04_COLD_OTM_LIBERTAD	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5152_08W05_LTS_OTM_ENGLISH_20080129	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5153_08W05_COLD_OTM_RIVERFRONT	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5154_08W05_COLD_OTM_LIBERTAD	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5155_08W05_LTS_OTM_ENGLISH_20080131	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5156_08W01_COLD_OTM_LIBERTAD_EXTRA	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5157_08W06_LTS_OTM_ENGLISH_20080205	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5158_08W06_COLD_OTM_RIVERFRONT	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5159_08W06_XCLD_WO_ATT20080206	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
5163_08W06_COLD_OTM_LIBETAD-	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5164_08W06_LTS_OTM_ENGLISH_20080207	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5172_08W07_LTS_OTM_ENGLISH_20080212	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5174_08W07_COLD_OTM_RIVERFRONT	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5175_08W07_COLD_OTM_LIBERTAD	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5176_08W07_LTS_OTM_ENGLISH_20080214	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5180_08W07_COLD_OTM_HARLINGEN	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5185_08W08_TECHIE_OTM_MODEL_CONTROL	Other Telemarketing	Other	-
5186_08W08_LTS_OTM_ENGLISH_20080219	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5187_08W08_COLD_OTM_RIVERFRONT	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5189_08W08_COLD_OTM_LIBERTAD	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5190_08W08_LTS_OTM_ENGLISH_20080221	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5191_08W08_COLD_OTM_HARLINGEN	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5192_08W08_COLD_OTM_EPASO	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5195_08W09_COLD_OTM_Q2	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5196_08W09_LTS_OTM_ENGLISH_20080226	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5198_08W09_COLD_OTM_Q2_LIBERTAD	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5199_08W09_COLD_OTM_Q2_LIBERTAD_EXTRA	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5200_08W09_LTS_OTM_ENGLISH_20080228	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5201_08W10_LTS_OTM_ENGLISH_20080304	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5202_08W10_COLD_OTM_Q2_RF	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5203_08W10_COLD_OTM_Q2_OR	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5204_08W10_LTS_OTM_ENGLISH_20080306	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5208_08W10_COLD_OTM_Q2_HARLINGEN	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5209_08W10_OTM_TECHIE_II_MODEL	Other Telemarketing	Other	-
5210_08W10_OTM_TECHIE_CONTROL_II	Other Telemarketing	Other	-
5211_08W11_LTS_OTM_ENGLISH_20080311	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5212_08W11_COLD_OTM_RIVERFRONT	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5213_08W11_COLD_OTM_LIBETAD	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5214_08W11_LTS_OTM_ENGLISH_20080313	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5215_08W11_COLD_OTM_EL_PASO	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5216_08W11_COLD_OTM_HARLINGEN	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5223_08W12_LTS_OTM_ENGLISH_20080318	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5226_08W12_COLD_OTM_Q3	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5227_08W12_COLD_OTM_Q3	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5228_08W12_LTS_OTM_ENGLISH_20080320	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5229_08W13_LTS_OTM_ENGLISH_20080325	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5231_08W13_COLD_OTM_Q3_RIVERFRONT	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5232_08W13_COLD_OTM_Q3_LIBERTAD_1	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5233_08W13_LTS_OTM_ENGLISH_20080327	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5234_08W13_COLD_OTM_RIVERFRONT_EXTRA	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5235_08W13_COLD_OTM_LIBERTAD_EXTRA	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5236_08W13_COLD_OTM_ELPASO	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5238_08W14_LTS_OTM_ENGLISH_20080401	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5239_08W14_EX_MEGA_SUBS_OTM	Other Telemarketing	Other	-
5240_08W14_COLD_OTM_LIBERTAD	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5243_08W14_COLD_OTM_HARLINGEN	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5245_08W14_LTS_OTM_ENGLISH_20080404	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5248_08W14_AT&T_CANCELS	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3084:21-3085:11.
5250_08W15_COLD_OTM_RIVERFRONT	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5252_08W15_COLD_OTM_OR	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5258_08W16_COLD_OTM_HARLINGEN	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5263_08W16_COLD_OTM_LIBERTAD	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5268_08W16_LTS_OTM_ENGLISH_20080418	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5269_08W16_COLD_OTM_INBOUND_RIVERFRONT	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5272_08W17_LTS_OTM_ENGLISH_20080422	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.

Campaign	Intended Audience	Call Type	Source
5273_08W16_ATT_CANCELS_OTM	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3084:21-3085:11.
5274_08W16_ATT_CANCELS_2_OTM	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3084:21-3085:11.
5275_08W17_COLD_OTM_HARLINGEN	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5276_08W17_COLD_OTM_RIVERFRONT	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5277_08W17_COLD_OTM_LIBERTAD	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5278_08W17_LTS_OTM_ENGLISH_20080424	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5282_08W18_LTS_OTM_ENGLISH_20080429	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5283_08W18_COLD_OTM_HARLINGEN	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5284_08W18_AT&T_CANCELS_OTM	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3084:21-3085:11.
5286_08W18_COLD_OTM_RIVERFRONT	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5288_08W18_LTS_OTM_ENGLISH_20080501	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5294_08W19_LTS_OTM_ENGLISH_20080506	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5298_08W19_LTS_OTM_ENGLISH_20080508	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5310_08W20_LTS_OTM_ENGLISH_20080513	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5317_08W20_LTS_OTM_ENGLISH_20080515	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5321_08W20_ATT_CANCELS	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3084:21-3085:11.
5323_08W21_ATT_CANCELS	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3084:21-3085:11.
5330_08W21_LTS_OTM_ENGLISH_20080520	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5333_08W21_LTS_OTM_ENGLISH_20080522	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5336_08W21_ISL_RECURRING_UPGRADE_OTM	Other Telemarketing	Other	-
5340_08W22_LTS_OTM_ENGLISH_20080527	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5344_08W22_LTS_OTM_ENGLISH_20080529	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5356_08W23_LTS_OTM_ENGLISH_20080603	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5359_08W23_LTS_OTM_ENGLISH_20080605	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5370_08W24_ATT_CANCELS	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3084:21-3085:11.
5378_08W24_LTS_OTM_ENGLISH_20080610	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5383_08W24_LTS_OTM_ENGLISH_20080612	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5387_08W24_ATT_CANCELS	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3084:21-3085:11.
5395_08W25_LTS_OTM_ENGLISH_20080618	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5396_08W25_LTS_OTM_ENGLISH_20080619	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5399_08W25_ATT_CANCELS	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3084:21-3085:11.
5402_08W26_LTS_OTM_ENGLISH_20080624	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5406_08W26_LTS_OTM_ENGLISH_20080626	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5418_08W27_LTS_OTM_ENGLISH_20080701	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5423_08W27_LTS_OTM_ENGLISH_20080703	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5431_08W28_LTS_OTM_ENGLISH_20080708	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5441_08W28_LTS_OTM_ENGLISH_20080710	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5445_08W28_ATT_CANCELS	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3084:21-3085:11.
5456_08W29_LTS_OTM_ENGLISH_20080715	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5461_08W29_LTS_OTM_ENGLISH_20080717	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5465_08W30_LTS_OTM_ENGLISH_20080722	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5475_08W30_LTS_OTM_ENGLISH_20080725	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5478_08W31_LTS_OTM_ENGLISH_20080729	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5480_08W31_COLD_OTM_Q4_OR	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5482_08W31_LTS_OTM_ENGLISH_20080731	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5483_08W31_ATT_CANCELS	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3084:21-3085:11.
5488_08W32_LTS_OTM_ENGLISH_20080805	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5493_08W32_LTS_OTM_ENGLISH_20080807	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5495_08W33_LTS_OTM_ENGLISH_20080812	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5498_08W33_LTS_OTM_ENGLISH_20080814	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5507_08W34_LTS_OTM_ENGLISH_20080819	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5512_08W34_LTS_OTM_ENGLISH_20080821	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5529_08W35_LTS_OTM_ENGLISH_20080826	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5534_08W35_LTS_OTM_ENGLISH_20080828	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5542_08W37_LTS_OTM_ENGLISH_20080909	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5569_08W38_LTS_OTM_ENGLISH_20080918	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5580_08W39_AT&T_CANCELS	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3084:21-3085:11.
5588_08W40_LTS_OTM_ENGLISH_20080930	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5591_08W40_AT&T_CANCELS	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3084:21-3085:11.
5594_08W40_LTS_OTM_ENGLISH_20081002	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5595_08W41_LTS_OTM_ENGLISH_20081007	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5602_08W41_LTS_OTM_ENGLISH_20081009	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5607_08W42_LTS_OTM_ENGLISH_20081014	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5609_08W42_LTS_OTM_ENGLISH_20081016	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5620_08W43_LTS_OTM_ENGLISH_20081021	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5625_08W43_LTS_OTM_ENGLISH_20081023	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5633_08W44_LTS_OTM_ENGLISH_20081028	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5639_08W44_LTS_OTM_ENGLISH_20081030	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5643_08W44_COLD_OTM_EL_PASO	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5649_08W46_LTS_OTM_ENGLISH_20081113	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5673_08W45_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5688_08W45_COLD_OTM	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5692_08W45_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5724_08W47_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5728_08W47_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5752_08W48_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5783_08W49_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5785_08W49_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5791_08W50_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.

Campaign	Intended Audience	Call Type	Source
5792_08W50_COLD_OTM	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5799_08W50_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5805_08W51_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5809_08W51_COLD_OTM	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5814_08W51_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5844_08W52_COLD_OTM	Potential Future Customer	Cold Call	Testimony of Joey Montano, February 10, 2016, 3116:24-3117:10.
5845_08W52_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5846_08W52_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5849_08W53_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5855_09W02_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5860_09W02_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5880_09W03_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5885_09W03_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5895_09W04_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5898_09W04_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5911_09W05_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5927_09W06_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5929_09W06_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5935_09W07_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5946_09W08_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5951_09W08_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5963_09W09_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5975_09W10_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5978_09W10_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5983_09W10_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
5995_09W11_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6011_09W12_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6014_09W12_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6029_09W13_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6036_09W13_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6060_09W14_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6068_09W15_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6074_09W15_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6091_09W16_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6103_09W17_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6113_09W18_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6116_09W18_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6140_09W19_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6147_09W19_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6157_09W20_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6164_09W20_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6172_09W21_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6174_09W21_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6188_09W22_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6196_09W23_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6215_09W24_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6290_09W27_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6338_09W29_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6390_09W31_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6403_09W32_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6438_09W33_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
6483_09W34_LTS_PHONE_ENGLISH	Potential Future Customer	Inquiry	Testimony of Joey Montano, February 10, 2016, 3087:12-22.
99999999999999999[1]	Other Telemarketing	Other	-
AM 090507GREEK	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 090607CHIN	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 090607FILI	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 090607KORE	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 091107ARAB	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 091107GREEK	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 091207CHIN	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 091307KINO	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 091407FRENCH	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 091407GERMAN	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 092107FREEHD	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 092607DV	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 092807$100	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 100407INDUSM	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 100407INDUSV	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 100507ZEE	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 100807INDUS	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 101807SHO	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 102307HINDI	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 103007ARAB1	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 103007ARAB2	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 110107HINDI	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 110907CHINESE	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 110907GREEK	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 111607KINO	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM 112707LEON	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.

Campaign	Intended Audience	Call Type	Source
AM ARABIC LOC 999	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM AZTECA (BAKE)DVR	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM AZTECA (BAKE)NDVR	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM AZTECA (SDIE) DVR	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM AZTECA (SDIE)NDVR	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM AZTECA (SPGS) DVR	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM AZTECA (SPGS)NDVR	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM AZTECA NO DVR	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM AZTECA W/ DVR	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM BRAZIL LOC 999	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM CHINESE AUTO	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM CHINESE LOC 999	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM CHINESE OLYMPICS	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM FRENCH BOQ(02/01)	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM FRENCH BOUQUET	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM FRENCH LOC 999	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM GERMAN KINO FREE	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM GERMAN LOC 999	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM GREATWALL 01/28	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM GREATWALL 02/04	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM GREATWALL 02/11	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM GREEK LOC 999	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM ISRAELI FP(01/31)	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM ITALIAN LOC 999	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM KOREAN LOC 999	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM KOREAN OLYMPICS	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM LATINO CHURN	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM PENNY MAX	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM POLISH LOC 999	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM PRTGSE LOC 999	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM RUSSIAN LOC 999	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM SASIAN LOC 999	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
AM URDU/PAK LOC 999	Current Customer	Automessage	Testimony of Joey Montano, February 10, 2016, 3041:25-3042:10.
BF BIG10	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3076:10-14.
BF COMM ROLLOFF	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3076:15-22.
BF E-CARE	Current Customer	Future Disconnect	Testimony of Joey Montano, February 10, 2016, 3095:1-24.
BF VOL	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL (DHP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (10MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (11MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (12MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (14MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (16MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (18MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (1MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (20MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (22MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (2MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (3MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (4MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (5MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (6MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (7MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (8MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (9MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
BF VOL TRAIL (MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
CREATIVE1_AUSTIN TX	Other Telemarketing	Other	-
CREATIVE1_BOISE ID	Other Telemarketing	Other	-
CREATIVE1_DENVER CO	Other Telemarketing	Other	-
CREATIVE1_FARGO-VALLEY CITY ND	Other Telemarketing	Other	-
CREATIVE1_GREENSBORO ET AL NC	Other Telemarketing	Other	-
CREATIVE1_LOUISVILLE KY	Other Telemarketing	Other	-
CREATIVE1_MINNEAPOLIS-ST. PAUL	Other Telemarketing	Other	-
CREATIVE1_PITTSBURGH PA	Other Telemarketing	Other	-
CREATIVE1_SEATTLE-TACOMA WA	Other Telemarketing	Other	-
CREATIVE2_AUSTIN TX	Other Telemarketing	Other	-
CREATIVE2_BOISE ID	Other Telemarketing	Other	-
CREATIVE2_DENVER CO	Other Telemarketing	Other	-
CREATIVE2_FARGO-VALLEY CITY ND	Other Telemarketing	Other	-
CREATIVE2_GREENSBORO ET AL NC	Other Telemarketing	Other	-
CREATIVE2_LOUISVILLE KY	Other Telemarketing	Other	-
CREATIVE2_MINNEAPOLIS-ST. PAUL	Other Telemarketing	Other	-
CREATIVE2_PITTSBURGH PA	Other Telemarketing	Other	-
CREATIVE2_SEATTLE-TACOMA WA	Other Telemarketing	Other	-
EC 061407LIST1	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3100:5-3104:21; DISH11-039267 - Current Customer and Warm.xlsx
EC 061407LIST2	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3100:5-3104:21; DISH11-039267 - Current Customer and Warm.xlsx

Campaign	Intended Audience	Call Type	Source
EC 061407LIST3	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3100:5-3104:21; DISH11-039267 - Current Customer and Warm.xlsx
EC 12MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 13MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 14MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 15MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 16MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 17MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 18MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 19MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 20MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 21MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 22MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 25MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 27MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 29MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 31MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 33MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 37MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 39MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC 51MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC AMEX/DDA 1P 200	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3076:23-3077:16.
EC AMEX/DDA SEG 3	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3076:23-3077:16.
EC BABY FIRST	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:21-3099:3.
EC BABY FIRST 2	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:21-3099:3.
EC BABY FIRST 3	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:21-3099:3.
EC BABY FIRST 4	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:21-3099:3.
EC DLHPPV ENDSD	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3099:14-3100:1.
EC DLHPPV ENGSD	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3099:14-3100:1.
EC HB MX OP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC HBO 1P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC HBO 1P LATINO	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC HBO 2P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC HBO 3P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC HBO/MAX 1P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC MAX 2P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC MAX 3P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC PLAYINTV (ENG)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3099:9-12.
EC PLAYINTV (ESP)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3099:9-12.
EC PLAYINTV NEW(ESP)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3099:9-12.
EC PLYN ITV ENG	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3099:9-12.
EC PLYN ITV OTR(ESP)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3099:9-12.
EC PLYN TV NEW SUB	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3099:9-12.
EC QWEST DSL NO PREM	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3100:2-4.
EC SH/ST 2P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SH/ST 2P(120/180)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO 0P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO 0P HD	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO 0P LATINO	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO 1P (200/250)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO 1P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO 1P (ALL) ESP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO 1P HD DDA	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO 1P HD NO DDA	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO 1P LATINO	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO 2P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO 2P (ALL) ESP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO 2P LATINO	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO 3P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO 3P (ALL) ESP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO 3P LATINO	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO LATINO	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO LATINO 2P	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO/STZ 2P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC SHO/STZ 2P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC STARZ 1P (LATINO)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC STZ 0P LATINO	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC STZ 1P (200/250)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC STZ 1P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC STZ 1P (ALL) ESP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC STZ 1P LATINO	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC STZ 2P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC STZ 2P (ALL) ESP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC STZ 2P LATINO	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC STZ 3P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC STZ 3P (ALL) ESP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC STZ 3P LATINO	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC STZ LATINO	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC STZ LATINO 2P	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.

Campaign	Intended Audience	Call Type	Source
EC STZ LATINO 3P	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EC VOL TRAIL (13MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC VOL TRAIL (14MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC VOL TRAIL (15MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC VOL TRAIL (20MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC VOL TRAIL (22MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC VOL TRAIL (25MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC VOL TRAIL (27MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC VOL TRAIL (31MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC VOL TRAIL (33MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC VOL TRAIL (35MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC VOL TRAIL (3MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC VOL TRAIL (47MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC VOL TRAIL (49MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC VOL TRAIL (53MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC VOL TRAIL (71MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_DS_TRL_20M	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EC_FUTURE	Current Customer	Future Disconnect	Testimony of Joey Montano, February 10, 2016, 3095:1-24.
EC_VWIN_48HR_DHA	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_48HR_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_48HR_ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_ECARE	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_04M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_05M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_05M_ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_06M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_07M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_09M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_10M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_10M_ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_11M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_11M_ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_12_ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_12M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_12M_ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_13M_ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_14M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_14M_ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_15M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_15M_ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_16M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_16M_ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_17M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_18M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_19M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_20M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_21M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_22M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_22M_ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EC_VWIN_TRL_9M_ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
ENGOO2	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3092:11-16.
EP 10MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EP 12MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EP 14MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EP 15MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EP 16MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EP 19MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EP 1MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EP 3MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EP 4MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EP 5MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EP 6MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EP 8MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EP 9MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
EP BAM (3/14-25)	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3076:1-9.
EP BAM (3/26-31)	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3076:1-9.
EP BAM (4/01/02)	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3076:1-9.
EP BAM (4/09)	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3076:1-9.
EP BAM (4/11)	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3076:1-9.
EP BAM (4/29)	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3076:1-9.
EP BAM (5/15)	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3076:1-9.
EP BAM (6/03)	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3076:1-9.
EP BAM (7/14)	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3076:1-9.
EP BAM (8/12)	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3076:1-9.
EP CRICKET	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3104:5-8.
EP DIRECTV LIST 1	Other Telemarketing	Other	-
EP DIRECTV LIST 2	Other Telemarketing	Other	-
EP DLHPPV ENGHD	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3099:14-3100:1.

Campaign	Intended Audience	Call Type	Source
EP ESSENTIAL SERV	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3104:9-15; DISH11-039267 - Current Customer and Warm.xlsx
EP FUTURE	Current Customer	Future Disconnect	Testimony of Joey Montano, February 10, 2016, 3095:1-24.
EP HBO 1P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EP HOMES ORG	Potential Future Customer	Opt-In	Testimony of Joey Montano, February 10, 2016, 3120:14-3122:20.
EP HWO 0102	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0103	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0106	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0107	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0108	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0109	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0130	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0203	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0204	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0205	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0206	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0210	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0211	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0212	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0213	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0216	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0217	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0218	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0219	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0220	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0223	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0224	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0225	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0226	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0227	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0228	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0301	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0303	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0304	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0305	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0306	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0309	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0311	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0312	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0316	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0317	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0318	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0319	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0320	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0321	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0323	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0324	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0325	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0326	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0327	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0328	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0329	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0330	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0331	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0401	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0402	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0403	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0404	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0405	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0407	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0408	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0409	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0410	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0411	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0412	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0413	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0414	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0415	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0416	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0417	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0418	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0419	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0420	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0421	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0422	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0423	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0424	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0425	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0426	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.

Campaign	Intended Audience	Call Type	Source
EP HWO 0427	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0428	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0429	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0430	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0501	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 05010	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 05011	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 05012	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 05013	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 05014	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 05015	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 05016	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 05017	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 05018	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 05019	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0502	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 05020	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 05021	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 05022	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 05026	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0503	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0505	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0506	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0507	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0508	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0509	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0601	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0602	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0603	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0604	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0605	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0608	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0609	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0610	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0611	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0612	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0613	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0614	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0615	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0616	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0617	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0618	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0619	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0620	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0621	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0622	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0623	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0624	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0625	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0626	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0627	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0628	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0629	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0630	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0701	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0702	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0703	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0704	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0705	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0706	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0707	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0708	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0709	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0710	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0711	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0712	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0713	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0714	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0715	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0716	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0719	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0720	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0721	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0722	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0723	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0726	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0727	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0728	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0729	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.

Campaign	Intended Audience	Call Type	Source
EP HWO 0730	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0731	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0801	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0802	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0803	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0804	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0805	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0806	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0807	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0808	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0809	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0810	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0811	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0812	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0813	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0814	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0815	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0816	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0817	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0818	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0819	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0820	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0821	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0824	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0825	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0826	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0827	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0830	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0831	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0929	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 0930	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1001	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1002	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1003	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1004	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1005	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1006	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1007	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1008	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1009	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1010	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1011	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1012	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1013	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1014	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1016	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1017	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1018	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1019	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1020	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1022	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1023	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1024	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1025	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1026	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1027	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1028	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1029	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1030	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1101	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1102	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1103	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1104	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1105	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1106	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1107	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1108	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1109	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1110	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1111	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1113	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1114	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1116	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1117	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1118	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1119	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1120	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1122	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1123	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.

Campaign	Intended Audience	Call Type	Source
EP HWO 1124	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1125	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1127	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1128	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1129	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1130	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1201	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1202	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1203	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1204	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1205	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1206	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1207	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1208	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1209	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1210	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1211	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1212	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1213	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1214	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1215	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1216	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1217	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1218	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1219	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1220	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1221	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1222	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1223	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1224	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1226	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1229	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP HWO 1230	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
EP LAT RET MAX	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EP LOYALTY	Other Telemarketing	Other	-
EP PLAY 1P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3099:9-12.
EP SHO 1P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EP STARZ 0P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EP STARZ 1P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EP STZ 1P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EP STZ 2P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EP VOL	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL TRAIL (10MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL TRAIL (11MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL TRAIL (12MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL TRAIL (14MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL TRAIL (16MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL TRAIL (18MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL TRAIL (1MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL TRAIL (20MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL TRAIL (22MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL TRAIL (2MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL TRAIL (3MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL TRAIL (4MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL TRAIL (5MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL TRAIL (6MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL TRAIL (7MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL TRAIL (8MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP VOL TRAIL (9MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EP_ARPU_MAX_0P	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EP_ARPU_PPVO_0PAY	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3099:14-3100:1.
EP_ARPU_SHO_0P	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EP_ARPU_STARZ_0PAY	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
EP_DISCO_RETAILER	Other Telemarketing	Other	-
EP_PPV_OTHER_0PAY	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3099:14-3100:1.
EP_VWIN_48HR_ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
EQFX_DM_TO_OTM	Other Telemarketing	Other	-
EXT_DM_TO_OTM	Other Telemarketing	Other	-
HG 16MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 17MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 18MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 19MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 20MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 25MTH ACQ	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 25MTH ACQ (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 27MTH ACQ (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 29MTH ACQ	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 29MTH ACQ (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.

Campaign	Intended Audience	Call Type	Source
HG 31MTH ACQ (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 33MTH ACQ	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 33MTH ACQ (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 35MTH ACQ (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 37MTH ACQ (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 43MTH ACQ (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 45MTH ACQ (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 47MTH ACQ (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 49MTH ACQ (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 63MTH ACQ (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG 73MTH ACQ (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (25MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (27MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (29MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (31MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (31MTH)ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (33MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (35MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (37MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (39MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (41MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (43MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (45MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (49MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (51MTH) ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (53MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (55MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (57MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (59MTH) ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (61MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (61MTH) ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (65MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ (69MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 25MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 25MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 25MTH ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 26MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 27MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 27MTH ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 28MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 29MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 29MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 31MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 31MTH ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 32MTH(ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 33MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 33MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 33MTH(ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 35MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 35MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 35MTH(ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 37MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 37MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 37MTH(ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 39MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 39MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 39MTH(ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 41MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 41MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 43MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 43MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 45MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 45MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 47MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 49MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 49MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 51MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 51MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 53MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 53MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 55MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 55MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 57MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 57MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 59MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 61MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 61MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 63MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 63MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.

Campaign	Intended Audience	Call Type	Source
HG ACQ 65MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 65MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 67MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 67MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 69MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 69MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 71MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 75MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG ACQ 77MTH (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG DVR LAT DM OTM 1	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3099:4-8.
HG DVR LAT DM OTM 2	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3099:4-8.
HG DVR LAT DM OTM 3	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3099:4-8.
HG DVR LAT OTM 1	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3099:4-8.
HG DVR LAT OTM 2	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3099:4-8.
HG SHO 0P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
HG SHO 2P LATINO	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
HG SHO LATINO	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
HG STZ 1P LATINO	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
HG STZ 2P LATINO	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
HG STZ LATINO	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
HG TRAIL (10MTH ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG TRAIL (9MTH ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
HG VOL TRAIL (12MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
HG VOL TRAIL (14MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
HG VOL TRAIL (15MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
HG VOL TRAIL (16MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
HG VOL TRAIL (17MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
HG VOL TRAIL (18MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
HG VOL TRAIL (1MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
HG VOL TRAIL (20MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
HG VOL TRAIL (22MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
HG VOL TRAIL (33MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
HG VOL TRAIL (37MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
LI MAX 3P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
LI_DIRECT_SALES_HWO	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
LI_SALES_HWO	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3074:20-3075:25.
OCT3103C_LOWFRUIT_EAST	Other Telemarketing	Other	-
OR AMEX/DDA AUTOPAY	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3076:23-3077:16.
OR AMEX/DDA UPGRADE	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3076:23-3077:16.
OR CANCEL (0902)	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3088:23-3089:2.
OR CANCEL (0904)	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3088:23-3089:2.
OR CANCEL (0910)	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3088:23-3089:2.
OR CANCEL (0911)	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3088:23-3089:2.
OR CANCEL (0914)	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3088:23-3089:2.
OR CANCEL (0917)	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3088:23-3089:2.
OR CANCEL (0928)	Current Customer	Work Order	Testimony of Joey Montano, February 10, 2016, 3088:23-3089:2.
OR HBO 1P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
OR SHO 1P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
OR SHO 1PAY (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
OR STZ 1P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
OR STZ 1PAY (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
OR STZ 2P (ALL)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3097:11.
OR VOL	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (10MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (11MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (12MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (13MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (14MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (15MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (16MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (17MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (18MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (19MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (1MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (20MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (21MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (22MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (23MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (24MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (2MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (31MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (35MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (37MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (39MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (3MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (41MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (43MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (45MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (47MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.

Campaign	Intended Audience	Call Type	Source
OR VOL TRAIL (49MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (4MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (51MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (53MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (57MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (59MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (5MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (61MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (63MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (65MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (67MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (69MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (6MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (73MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (75MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (77MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (79MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (7MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (81MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (83MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (8MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (9MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
OR VOL TRAIL (MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
PB 0126 UPG(OTM1)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3104:16-19.
PB 0127 UPG(OTM1)	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3104:16-19.
PB AFRICAN WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB ARA DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB ARABIC ROLL OUT	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:4-8.
PB ARABIC UPSELL	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:9-13.
PB ARABIC WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB ARMENIAN ROLL OUT	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:4-8.
PB ARMENIAN WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB BRAZ DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB BRAZ ROLL OUT	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:4-8.
PB BRAZ WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB CHI DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB CHINESE ROLL OUT	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:4-8.
PB CHINESE UPSELL	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:9-13.
PB CHINESE WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB FIL DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB FILIPINO WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB FRE DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB FRENCH BOUQUET	Current Customer	Upsell	DISH11-039267 - Current Customer and Warm.xlsx
PB FRENCH ROLL OUT	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:4-8.
PB FRENCH WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB GER DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB GERMAN ROLL OUT	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:4-8.
PB GERMAN UPSELL	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:9-13.
PB GERMAN WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB GRE DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB GREEK ROLL OUT	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:4-8.
PB GREEK UPSELL	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:9-13.
PB GREEK WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB HEBREW UPSELL	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:9-13.
PB HEBREW WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB HIN DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB ISR DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB ISRAELI WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB ITA DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB ITA PAN DISC	Current Customer	Upsell	DISH11-039267 - Current Customer and Warm.xlsx
PB ITA PAN DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB ITA RAI DISC	Current Customer	Upsell	DISH11-039267 - Current Customer and Warm.xlsx
PB ITA RAI DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB ITALIAN ROLL OUT	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:4-8.
PB ITALIAN UPSELL	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:9-13.
PB ITALIAN WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB JAP DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB JAPANESE WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB KOR DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB KOREAN WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB MUL EUR DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB MUL EUR ROLL OUT	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:4-8.
PB PAK DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB PAKISTANI WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB POL DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB POLDROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB POLISH ROLL OUT	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:4-8.
PB POLISH WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB POR DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.

Campaign	Intended Audience	Call Type	Source
PB PORTUGUES ROLL OU	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:4-8.
PB PORTUGUES WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB RUS DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB RUSSIAN ROLL OUT	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:4-8.
PB RUSSIAN UPSELL	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:9-13.
PB RUSSIAN WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB SAS DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB SASIAN ROLL OUT	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:4-8.
PB SASIAN WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB TAG DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB TAGALOG ROLL OUT	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:4-8.
PB TAGALOG WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB TEL DROP	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3097:19-3098:3.
PB UKR WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB URDU WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB VIET WINBACK	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3098:14-18.
PB_ADHOC_CONSOL_HIN	Other Telemarketing	Other	-
PB_ADHOC_CONSOL_TAI	Other Telemarketing	Other	-
QU_ADHOC_CONSOL_CHIN	Other Telemarketing	Other	-
QU_ADHOC_CONSOL_FREN	Other Telemarketing	Other	-
QU_ADHOC_CONSOL_GER	Other Telemarketing	Other	-
QU_ADHOC_CONSOL_HIN	Other Telemarketing	Other	-
QU_ADHOC_CONSOL_ISRA	Other Telemarketing	Other	-
QU_ADHOC_CONSOL_POL	Other Telemarketing	Other	-
QU_ADHOC_CONSOL_PORT	Other Telemarketing	Other	-
QU_ADHOC_CONSOL_TAI	Other Telemarketing	Other	-
QU_ADHOC_CONSOL_TELU	Other Telemarketing	Other	-
QU_ADHOC_CONSOL_URD	Other Telemarketing	Other	-
QU_ADHOC_RUSS_MEGPK	Other Telemarketing	Other	-
RF ACQ (27MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
RF ACQ (31MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
RF ACQ (43MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
RF ACQ (47MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
RF ACQ (51MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
RF ACQ (55MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
RF ACQ (59MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
RF ACQ 27MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
RF ACQ 31MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
RF ACQ 35MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
RF ACQ 37MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
RF ACQ 39MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
RF ACQ 41MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
RF ACQ 43MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
RF ACQ 47MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
RF ACQ 53MTH	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
RF_COMMERCIAL SURVEY	Current Customer	Non Telemarketing	Testimony of Joey Montano, February 10, 2016, 3092:23-3093:1.
TH (1MTH) TRAIL ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH (3MTH) TRAIL ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH (5MTH) TRAIL ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 09MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 101107THHD	Other Telemarketing	Other	-
TH 10MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 111307HDST	Other Telemarketing	Other	-
TH 111607HOME	Other Telemarketing	Other	-
TH 11MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 12MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 12MTH TRAIL ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 13MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 14MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 15MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 16MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 17MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 19MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 1MTH TRAIL	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 1MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 21MTH TRAIL ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 23MTH TRAIL ESP	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 24MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 2MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 3MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 3MTH TRAIL(ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 4MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 4MTH TRAIL(ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 5MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 5MTH TRAIL(ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 63MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 65MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 67MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 69MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.

Campaign	Intended Audience	Call Type	Source
TH 6MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 6MTH TRAIL(ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 71MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 73MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 75MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 77MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 79MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 7MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 81MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 83MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 8MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH 9MTH TRAIL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3093:2-12.
TH FUTURE	Current Customer	Future Disconnect	Testimony of Joey Montano, February 10, 2016, 3095:1-24.
TH HD/DVR UPG	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3096:24-3104:19.
TH QWEST DSL W/ PREM	Current Customer	Upsell	Testimony of Joey Montano, February 10, 2016, 3100:2-4.
TH VOL	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH VOL (DHP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH VOL (ESP)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH VOL TRAIL (10MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH VOL TRAIL (11MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH VOL TRAIL (1MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH VOL TRAIL (2MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH VOL TRAIL (3MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH VOL TRAIL (4MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH VOL TRAIL (5MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH VOL TRAIL (6MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH VOL TRAIL (7MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH VOL TRAIL (8MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH VOL TRAIL (9MTH)	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH_VWIN_TRL_11M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH_VWIN_TRL_12M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH_VWIN_TRL_14M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH_VWIN_TRL_17M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH_VWIN_TRL_6M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH_VWIN_TRL_7M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.
TH_VWIN_TRL_9M_ENG	Former Customer	Winback	Testimony of Joey Montano, February 10, 2016, 3147:4-5.

Note:
[1] This campaign is represented as "1+E17" in other data sources due to data processing.

EXHIBIT 668

EXHIBIT 668

E-FILED
Monday, 03 October, 2016 07:31:36 PM
Clerk, U.S. District Court, ILCD

IN THE UNITED STATES DISTRICT COURT
FOR THE CENTRAL DISTRICT OF ILLINOIS
SPRINGFIELD DIVISION

UNITED STATES OF AMERICA and the STATES OF CALIFORNIA, ILLINOIS, NORTH CAROLINA, and OHIO,	Case No. 3:09-cv-03073
Plaintiffs,	[PROPOSED] JUDGMENT AND ORDER FOR PERMANENT INJUNCTION
v.	
DISH NETWORK L.L.C.,	**[Proposed Order]**
Defendant.	

Plaintiff, the United States of America, acting upon notification and authorization to the Attorney General by the Federal Trade Commission ("FTC" or the "Commission"), and Plaintiffs the States of California, Illinois, North Carolina, and Ohio ("State Co-Plaintiffs") filed their Complaint, subsequently amended as the First Amended Complaint and Demand for Jury Trial (the "Complaint"), for a permanent injunction, civil penalties, and other relief in this matter. The FTC's claims are pursuant to Sections 13(b), 19, 16(a)(1) of the Federal Trade Commission Act ("FTC Act"), 15 U.S.C. §§ 53(b), 57b, and 56(a)(1), and various provisions of the Telemarketing Sales Rule, 16 C.F.R. Part 310. The State Plaintiffs' claims are pursuant to the Telephone Consumer Protection Act ("TCPA"), 47 U.S.C. § 227, California Business and Professions Codes Sections 17592 and 17200, Illinois Automatic Telephone Dialers Act 815 ILCS 305/1 *et seq.*, North Carolina General Statutes Sections 75-101, 75-102 and 75-104, and Ohio Consumer Sales Practices Act, Revised Code Section 1345.01 *et seq.*

The Court granted Plaintiffs' motion for summary judgment in part on December 11, 2014 (Opinion 445), finding *inter alia*, that DISH Network was liable for committing violations

DEFENDANT'S EXHIBIT
DTX-1097
JA013419
012192

of the telemarketing laws as alleged by Plaintiffs, and reconsidered and vacated parts of Opinion 445 in Opinion 478; the rulings in Opinions 445 and 478 incorporated by reference herein. The Court tried the Plaintiffs' claims for civil penalties and damages during January-February 2016 and will issue a separate Order on those demands. After trying the Plaintiffs' case for Permanent Injunctive Relief during October-November 2016 and considering the parties' post trial briefings, the Court now enters this Order for Permanent Injunction ("Order").

THEREFORE, it is **ORDERED** as follows:

FINDINGS

1. This Court has jurisdiction over this matter.
2. The Complaint charges that Defendant participated in acts or practices in violation of Section 5 of the FTC Act, 15 U.S.C. § 45, the Telemarketing Sales Rule, the TCPA, and various state laws by making telemarketing calls numbers on the National Do Not Call Registry, abandoning calls, using automated voice telemarketing ("robocalls"), and assisting others in these violations.
3. Entry of this Order is in the public interest.

DEFINITIONS

For the purpose of this Order, the following definitions shall apply:

1. "Authorized Telemarketer" means a person that has received express, written authorization from Dish Network to use telemarketing to market Dish Network goods or services. The term Authorized Telemarketer also includes any employee, agent, assign, independent contractor or any other person hired, retained or used by an Authorized Telemarketer to engage in, or provide any assistance in, telemarketing.

2. "Customer" means any person who is or may be required to pay for goods or services offered through telemarketing.

3. "Defendant," "Dish Network," or "Dish" means Dish Network L.L.C., its subsidiaries, officers, agents, servants, employees, and attorneys.

4. "Dish Network goods or services" means satellite television programming and all other related goods or services.

5. "Established business relationship" or "EBR" means a relationship between the seller and a person based on: (a) the person's purchase, rental, or lease of the seller's goods or services or a financial transaction between the person and seller, within the eighteen (18) months immediately preceding the date of the telemarketing call; or (b) the person's inquiry or application regarding a product or service offered by the seller, within the three months immediately preceding date of a telemarketing call.

6. "Internal Do Not Call List" means a list or compilation pursuant to 16 C.F.R. § 310.4(b)(1)(iii)(A) containing telephone numbers of consumers who have stated that they do not wish to receive telemarketing calls.

7. "National Do Not Call Registry" means the National Do Not Call Registry maintained by the FTC pursuant to 16 C.F.R. § 310.4(b)(1)(iii)(B).

8. "Outbound telephone call" means a telephone call initiated by a telemarketer to induce the purchase of goods or services or to solicit a charitable contribution.

9. "Person" means any individual, group, unincorporated association, limited or general partnership, corporation, or other business entity.

10. "Plaintiffs" shall mean the FTC and the States of California, Illinois, Ohio, and North Carolina.

11. "Retailer" means any person who markets Dish Network goods or services, solicits orders for Dish Network goods or services, or offers Dish Network goods or services. "Retailer" also includes any employee, agent, assign, vendor, service provider, independent contractor, or any other person or third-party affiliate contracted with, hired, retained or used by a Retailer to engage in, or provide any assistance in, marketing Dish Network.

12. "Seller" means:

    a. any person who, in connection with a telemarketing transaction, provides, offers to provide, or arranges for others to provide goods or services to the customer in exchange for consideration, whether or not such person is under the jurisdiction of the FTC, or

    b. any person or entity on whose behalf a telephone call or message is initiated for the purpose of encouraging the purchase or rental of, or investment in, property, goods, or services, which is transmitted to any person.

13. "Signature" shall include an electronic or digital form of signature, to the extent that such form of signature is recognized as a valid signature under applicable federal law or state contract law.

14. "State Plaintiffs" means the States of California, Illinois, Ohio, and North Carolina.

15. "Telemarketer" means:

    a. any person who, in connection with telemarketing, initiates or receives telephone calls to or from a customer or donor, or

b. any person or entity that initiates a telephone call or message for the purpose of encouraging the purchase or rental of, or investment in, property, goods, or services, which is transmitted to any person.

16. "Telemarketing" means a plan, program, or campaign which is conducted to induce the purchase of goods or services or a charitable contribution, by use of one or more telephones and which involves more than one interstate telephone call. The term does not include the solicitation of sales through the mailing of a catalog which: contains a written description or illustration of the goods or services offered for sale; includes the business address of the seller; includes multiple pages of written material or illustrations; and has been issued not less frequently than once a year, when the person making the solicitation does not solicit customers by telephone but only receives calls initiated by customers in response to the catalog and during those calls takes orders only without further solicitation. For purposes of the previous sentence, the term "further solicitation" does not include providing the customer with information about, or attempting to sell, any other item included in the same catalog which prompted the customer's call or in a substantially similar catalog.

17. The "Telemarketing Sales Rule" or "Rule" means the FTC Rule entitled "Telemarketing Sales Rule," 16 C.F.R. Part 310, attached hereto as Appendix A, and as it may hereafter be amended.

18. The "Telephone Consumer Protection Act" or "TCPA" means 47 U.S.C. § 227, and as 47 U.S.C. § 227 may hereafter be amended, and any rule enacted pursuant to it, including but not limited to 47 C.F.R. § 64.1200, and as 47 C.F.R. § 64.1200 may hereafter be amended. A copy of the TCPA and 47 C.F.R. § 64.1200 are attached as Appendix B.

19. "Third-party monitoring service" means a qualified, independent third-party monitoring organization experienced in monitoring and producing reports on compliance with the Telemarketing Sales Rule.

ORDER

I. PROHIBITION ON OUTBOUND TELEMARKETING

IT IS HEREBY ORDERED that, for a period of five (5) years from the date this ORDER is entered, Dish Network, whether acting directly or indirectly through Authorized Telemarketers or Retailers, is hereby restrained and enjoined from any use of outbound telemarketing calls to market or promote Dish Network goods or services, whether to existing, former, or prospective customers.

II. PROHIBITION ON ACCEPTING CUSTOMER ORDERS FROM RETAILERS WITH ACCESS TO ORDER ENTRY OR SUCCESSOR SYSTEMS

IT IS FURTHER ORDERED that, from the date this ORDER is entered, Dish Network is hereby permanently restrained and enjoined from accepting any activations or sales from any Dish retailer that, between 2003 and the present, has been authorized to enter activations or sales through Dish's Order Entry ("OE") tool or any successor system that allows retailers to access Dish's computer systems for the purpose of selling Dish goods or services. This prohibition applies not only to the corporate entities that comprise each Dish OE retailer, but also to the principals and owners of any current or past Dish OE retailers.

Dish is further restrained and enjoined from accepting any activations or sales from any new Dish retailer that will be authorized to enter sales through Dish's OE tool or any successor system that allows retailers to access Dish's order entry systems for the purpose of selling Dish products or services, except under the circumstances outlined below.

A. As a precondition prior to accepting sales from any new Dish OE retailer, Dish must:

1. Hire a telemarketing-compliance expert that had no prior role with Dish or function in this case, who will prepare a plan to ensure that new OE retailers comply with the telemarketing laws;

2. Transmit the expert's plan to the Court, the Department of Justice, the Federal Trade Commission, and the State Plaintiffs; and

3. Fully implements the plan prepared by the expert.

B. Six months after fully implementing the expert's plan and resuming receiving orders retailers place through the OE system, Dish and the expert shall prepare and transmit to Plaintiffs a comprehensive written status report regarding telemarketing compliance of OE retailers.

1. Upon receipt of the six-month report, Plaintiffs have the right to respond to the report and then petition the Court to continue the OE-retailer ban indefinitely.

2. The Court shall decide such a petition without allowing additional discovery beyond the status report and the Plaintiffs' response.

3. If Dish's retailers have committed violations of the telemarketing laws at issue here, Dish shall be liable for those violations as if Dish itself had placed the calls.

III. RESTRICTIONS UPON WHICH DISH MAY RESUME TELEMARKETING AFTER FIVE YEARS

IT IS FURTHER ORDERED that at the end of the five-year ban on telemarketing, if Dish seeks to resume telemarketing either on its own or via Authorized Telemarketers or

Retailers, Dish shall retain all telemarketing compliance materials and to transmit them to the Plaintiffs on a semi-annual basis for a period of ten (10) years from the date Dish resumes telemarketing. Dish shall further permit Plaintiffs' representatives to conduct unannounced inspections to examine any Dish office, Retailer office, Retailer call center, or other similar facility to inspect for compliance with this Order.

A. The telemarketing compliance materials to be retained and transmitted shall include:

1. All outbound telemarketing call records;
2. All records of leads, EBRs, and consents-to-call associated with those call records;
3. All telemarketing complaints Dish received during the prior quarter;
4. All internal emails, internal instant messages, and internal Siebel database entries discussing telemarketing compliance over the prior quarter; and
5. Any other relevant telemarketing-compliance related information

B. Upon receipt and analysis of these records, Plaintiffs may petition the Court for further injunctive relief, up to and including resumption of a complete telemarketing ban. The Court shall decide such a petition on the record only and without allowing additional discovery beyond the records Dish transmitted to Plaintiffs and the parties' analyses of those records.

IV. PROHIBITIONS AGAINST AN ABUSIVE PATTERN OF TELEMARKETING CALLS IF DISH RESUMES TELEMARKETING OR ACCEPTS SALES FROM NEW OE RETAILERS, AUTHORIZED TELEMARKETERS OR OTHER RETAILERS

IT IS HEREBY ORDERED that, if Dish resumes telemarketing activities after the end of the five-year prohibition or meets the conditions set forth in Section II *supra*, with respect to sales from new OE retailers, Dish Network, whether acting directly or indirectly through

Authorized Telemarketers or Retailers, is hereby permanently restrained and enjoined from engaging in :

A. Initiating or causing the initiation of any outbound telephone call to a person when:

1. that person previously has stated to Dish Network or an Authorized Telemarketer or Retailer that he or she does not wish to receive an outbound telephone call made by or on behalf of Dish Network;

2. that person's telephone number is on the National Do Not Call Registry, unless:

a. Dish Network has obtained the express agreement, in writing, of such person to place calls to that person, which clearly evidences such person's authorization that calls made by or on behalf of Dish Network may be placed to that person, and the authorization includes the telephone number to which the calls may be placed and the signature of that person, and that person has not revoked the express agreement; or

b. Dish Network has an established business relationship with such person, and that person has not stated to Dish Network or an Authorized Telemarketer or Retailer, pursuant to 310.4(b)(1)(iii)(A) of the Telemarketing Sales Rule, that he or she does not wish to receive outbound telephone calls.

3. Nothing in subparagraphs 1 and 2, above, shall be construed to supersede the provisions of 16 C.F.R. § 310.4(b)(3) (the Telemarketing Sales Rule Do Not Call safe harbor).

B. Initiating or causing the initiation of any outbound telephone call that delivers a prerecorded message, other than a prerecorded message permitted for compliance with the call abandonment safe harbor in 16 C.F.R. § 310.4(b)(4)(iii), unless:

1. prior to making any such call to induce the purchase of any good or service, the seller has obtained from the recipient of the call an express agreement, in writing, that:

a. the seller obtained only after a clear and conspicuous disclosure that the purpose of the agreement is to authorize the seller to place prerecorded calls to such person;

b. the seller obtained without requiring, directly or indirectly, that the agreement be executed as a condition of purchasing any good or service;

c. evidences the willingness of the recipient of the call to receive calls that deliver prerecorded messages by or on behalf of a specific seller; and

d. includes such person's telephone number and signature; and

2. in any such call to induce the purchase of any good or service, the seller or telemarketer:

a. allows the telephone to ring for at least fifteen (15) seconds or four (4) rings before disconnecting an unanswered call; and

b. within two (2) seconds after the completed greeting of the person called, plays a prerecorded message that promptly provides the disclosures required by 16 C.F.R. § 310.4(d) or (e), followed immediately by a disclosure of one or both of the following:

(1) in the case of a call that could be answered in person by a consumer, that the person called can use an automated interactive voice and/or keypress-activated opt-out mechanism to assert a Do Not Call request pursuant to 16 C.F.R. § 310.4(b)(1)(iii)(A) at any time during the message. The mechanism must:

(a) automatically add the number called to the seller's entity-specific Do Not Call list;

(b) once invoked, immediately disconnect the call;

(c) be available for use at any time during the message; and

(2) in the case of a call that could be answered by an answering machine or voicemail service, that the person called can use a toll free-number to assert a Do Not Call request pursuant to 16 C.F.R. § 310.4(b)(1)(iii)(A). The number provided must connect directly to an automated interactive voice or keypress-activated opt-out mechanism that:

(a) automatically adds the number called to the seller's entity-specific Do Not Call list;

(b) immediately thereafter disconnects the call; and is accessible at any time throughout the duration of the telemarketing campaign; and complies with all other requirements of the Telemarketing Sales Rule and other applicable federal and state laws .

(c) Complies with all other requirements of the Telemarketing Sales Rule and other applicable federal and state laws.

C. Abandoning or causing the abandonment of any outbound telephone call to a person by failing to connect the call to a representative within two (2) seconds of the person's completed greeting, unless the following four (4) conditions are met:

1. Dish Network or an Authorized Telemarketer employ technology that ensures abandonment of no more than three (3) percent of all calls answered by a person, measured over the duration of a single calling campaign, if less 30 days, or separately over each successive 30 day period or portion thereof that the campaign continues;

2. Defendant or an Authorized Telemarketer, for each telemarketing call placed, allows the telephone to ring for at least fifteen (15) seconds or four (4) rings before disconnecting;

3. Whenever a representative is not available to speak with the person answering the call within two (2) seconds after the person's completed greeting, Dish Network or an Authorized Telemarketer promptly plays a

recorded message that states the name and telephone number of the seller on whose behalf the call was placed; and

4. Dish Network or an Authorized Telemarketer retains records, in accordance with 16 C.F.R. § 310.5(b)-(d), establishing compliance with the preceding three conditions.

D. Violating the Telemarketing Sales Rule, 16 C.F.R. Part 310, attached as Appendix A.

E. Violating the rules promulgated pursuant to the Telephone Consumer Protection Act, 47 C.F.R § 64.1200, attached as Appendix B.

F. Nothing in this Section IV shall be construed to supersede the provisions of 16 C.F.R. § 310.4(b)(3) (the Telemarketing Sales Rule Do Not Call safe harbor).

V. ADDITIONAL PROHIBITIONS

IT IS HEREBY ORDERED THAT Dish is prohibited from:

A. Failing to terminate any Authorized Telemarketer or Retailer that Dish knows or should know has violated or is violating the TSR, TCPA, or the state laws set forth in the complaint in this action;

B. Failing to terminate any Retailer that Dish knows or should know is telemarketing without express written authorization from Dish; and

C. Accepting any activations or sales from a Retailer unless Dish can prove that either the Retailer was authorized in writing by Dish to engage in telemarketing or the activations or sales did not involve any telemarketing.

VI. PROHIBITION ON ASSISTING AND FACILITATING

IT IS FURTHER ORDERED that, if Dish resumes telemarketing activities after the end of the five-year prohibition or meets the conditions set forth in Section II *supra*, with respect to sales from new OE retailers, that Dish Network is hereby permanently restrained and enjoined from providing substantial assistance and support to any Authorized Telemarketer or Retailer when Dish Network knows or consciously avoids knowing that the Authorized Telemarketer or Retailer is engaged in one or more violations of the Telemarketing Sales Rule, California Business and Professions Code Section 17592, Civil Code Section 1770(a)(22)(A) or Business and Professions Code Section 17200, Illinois Statute 815 ILCS 305/30(b), North Carolina General Statutes 75-102 or 75-104, or Ohio Consumer Sales Practices Act, Revised Code Section 1345.01 *et seq.*

VII. COMPLIANCE WITH STATE LAW PROVISIONS

IT IS FURTHER ORDERED that, if Dish resumes telemarketing activities after the end of the five-year prohibition or meets the conditions set forth in Section II *supra*, with respect to sales from new OE retailers, Dish Network is enjoined and prohibited from:

A. Violating the following California state statutes:

1. California Business and Professions Code Section 17592(c), by making or causing to be made telephone calls marketing Dish Network's goods or services to California telephone numbers on the Registry;

2. California Civil Code Section 1770(a)(22)(A), by disseminating unsolicited prerecorded messages by telephone with an unrecorded, natural voice, without first informing the person answering the telephone of the name of the caller or the organization being represented, and either the address or the telephone number of the caller, and without obtaining the consent of that person to listen to the pre-recorded message; or

3. California Business and Professions Code Section 17200 by violating California Business and Professions Code Section 17592(c); California Civil Code Section 1770(a)(22); or the TCPA.

B. Violating the following North Carolina state statutes:

1. The North Carolina Unwanted Telephone Solicitations Act, N.C. Gen. Stat. §§ 75-102(a), 75-102(d), by making telephone solicitations to a North Carolina telephone subscriber's telephone number if the subscriber's telephone number appears in the latest edition of the Registry;

2. N.C. Gen. Stat. § 75-102(d), by failing to implement systems and procedures to prevent telephone solicitations to telephone subscribers whose numbers appear in the Registry and to monitor and enforce compliance by its employees and independent contractors in those systems and procedures; or

3. N.C. Gen. Stat. § 75-104, by placing prerecorded unsolicited telephone calls using an automated dialer unless a live operator states the nature of the call and receives the recipient's prior approval to play the recording.

C. Violating the Illinois Automatic Telephone Dialers Act (Illinois Autodialer Act), 815 ILCS 305/30(b), by playing a prerecorded message placed by an autodialer without the consent of the called party.

D. Violating the following Ohio state statutes:

1. Consumer Sales Practices Act, Revised Code Section 1345.02 by engaging in a pattern or practice of initiating outbound telemarketing calls to consumers in the State of Ohio more than

thirty-one (31) days after such consumers' telephone numbers are listed on the National Do-Not-Call Registry;

2. Consumer Sales Practices Act, Revised Code Section 1345.02 engaging in a pattern or practice of initiating outbound telemarketing calls to consumers in the State of Ohio using artificial or prerecorded voices to deliver a message without the prior express consent of the called party or without falling within specified exemptions delineated within the TCPA in violation of the TCPA, 47 U.S.C. 27(B)(1)(b) and 47 C.F.R. 64.1200(a)(2); or

3. Consumer Sales Practices Act, Revised Code Sections 1345.02 and 1345.03 by engaging in a pattern or practice of initiating outbound telemarketing calls to consumers in the State of Ohio while failing to record and honor prior do-not-call requests made by those respective consumers.

VIII. DEFAULT PROVISIONS

IT IS FURTHER ORDERED THAT, in the event of default on the payments required to be made by this Order, the entire unpaid civil penalty and/or other judgment payments, together with interest computed under 28 U.S.C. § 1961 -- accrued from the date of default until the date of payment -- shall be immediately due and payable. Dish Network shall cooperate fully with Plaintiffs, and their agents in all attempts to collect the amount due pursuant to this Paragraph if Dish Network fails to pay fully the amount due at the time specified herein.

IX. COMPLIANCE MONITORING

IT IS FURTHER ORDERED that, for the purpose of monitoring Defendant's compliance with the Order:

A. Within fourteen (14) days of receipt of written notice from Plaintiffs, Dish Network must: submit additional compliance reports or other requested information, which must be sworn under penalty of perjury; appear for depositions; and produce documents, for inspection and copying. The Plaintiffs are also authorized to obtain discovery, without further leave of court, using any of the procedures prescribed by Federal Rules of Civil Procedure 29, 30 (including telephonic depositions), 31, 33, 34, 36, 45, and 69;

B. For matters concerning this Order, Plaintiffs are authorized to communicate with Dish Network through counsel of record in this litigation. If counsel no longer represents the Dish Network, the Plaintiffs are authorized to communicate directly with the Dish Network. Dish Network must permit representatives of Plaintiffs to interview any employee or other person affiliated with Dish Network who has agreed to such an interview. The person interviewed may have counsel present; and

C. Plaintiffs may use all other lawful means, including posing, through their representatives, as consumers, suppliers, or other individuals or entities, to Dish Network or to any individual, vendor, Retailer, or other entity affiliated with Defendant, without the necessity of identification or prior notice. Nothing in this Order limits the Commission's lawful use of compulsory process, pursuant to Sections 9 and 20 of the FTC Act, 15 U.S.C. §§ 49, 57b-1. Nor shall anything in this Order limit any of the State Plaintiffs' lawful use of compulsory process granted to any such Plaintiff pursuant to the State laws of that Plaintiff.

X. COMPLIANCE REPORTING

IT IS FURTHER ORDERED that Dish Network make timely submissions to Plaintiffs:

A. One hundred eighty (180) days after the date of entry of this Order, Dish Network must submit a compliance report, sworn to under penalty of perjury. This report must: (a) identify the primary physical, postal, and email address and telephone number, as designated points of contact, which Plaintiffs' representatives may use to communicate with Defendant; (b) identify all of Dish Network's businesses by all of their names, telephone numbers, and physical, postal, email, and Internet addresses; (c) describe the activities of each business, including the goods and services offered, the means of advertising, marketing, and sales; (d) describe in detail whether and how Dish Network is in compliance with each Section of this Order; and (e) provide a copy of each Order Acknowledgment obtained pursuant to this Order, unless previously submitted to the Plaintiffs.

B. For 20 years after entry of this Order, Dish Network must submit a compliance notice, sworn under penalty of perjury, within 14 days of any change in (a) any designated point of contact; or (b) the structure of Dish Network or any entity that Dish Network has any ownership interest in or controls directly or indirectly that may affect compliance obligations arising under this Order, including: creation, merger, sale, or dissolution of the entity or any subsidiary, parent, or affiliate that engages in any acts or practices subject to this Order;

C. Dish Network must submit to Plaintiffs notice of the filing of any bankruptcy petition, insolvency proceeding, or any similar proceeding by or against Dish Network within 14 days of its filing.

D. Any submission to the Plaintiffs required by this Order to be sworn under penalty of perjury must be true and accurate and comply with 28 U.S.C. § 1746, such as by concluding: "I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed on:_____" and supplying the date, signatory's full name, title (if applicable), and signature.

E. Unless otherwise directed by a Commission representative in writing, all submissions to the Commission pursuant to this Order must be emailed to DEbrief@ftc.gov or sent by overnight courier (not the U.S. Postal Service) to:

Associate Director for Enforcement
Federal Trade Commission
600 Pennsylvania Avenue, NW
Washington, DC 20580

The subject line must begin: US v. Dish Network X090039

F. For the purposes of this Order, unless otherwise directed by the State Plaintiffs' authorized representatives, Dish Network shall mail all submissions to the State Plaintiffs to:

Jinsook Ohta
Deputy Attorney General
Consumer Law Section
Office of the Attorney General
110 W. "A" Street, Suite 1100
San Diego, California 92101-3702
Telephone: 619-645-3182
Fax: 619-645-2062
jinsook.ohta@doj.ca.gov

Elizabeth Blackston
Paul Isaac
Philip Heimlich
Assistant Attorneys General
Office of the Attorney General
500 S. Second St.
Springfield, IL 62706

217-782-4436
217-782-1097 (facsiile)
eblackston@atg.state.il.us
pisaac@atg.state.il.us
pheimlich@atg.state.il.us

Teresa Townsend
Assistant Attorney General
Consumer Protection Division
N.C. Department of Justice
114 W. Edenton St.
Raleigh, NC 27603
Telephone: 919-716-6000
Fax: 919-716-6050
ttownsend@ncdoj.gov

Erin B. Leahy
Assistant Attorney General
Consumer Protection Section
Ohio Attorney General's Office
30 East Broad St., 14th Floor
Columbus, Ohio 43215
Direct telephone: (614) 752-4730
Toll Free: (800) 282-0515
Fax: (866) 768-2448
erin.leahy@ohioattorneygeneral.gov

VIII. RECORD KEEPING PROVISIONS

IT IS FURTHER ORDERED that Dish Network must create records for 20 years after entry of the Order, retain each such record for 5 years. Specifically, Dish Network, in connection with telemarketing must create and retain the following records:

A. Accounting records showing the revenues from all goods or services sold, all costs incurred in generating those revenues, and the resulting net profit or loss;

B. Personnel records showing, for each person providing services, whether as an employee or otherwise, that person's: name, addresses, and telephone numbers; job title or position; dates of service; and, if applicable, the reason for termination;

C. Complaints and refund requests, whether received directly or indirectly, such as through a third party, and any response;

D. All records necessary to demonstrate the full compliance with each provision of this Order, including all submissions to the Commission;

E. Telemarketing call records;

F. Records necessary to show the existence of EBRs with specific consumers, including inquiries and consents to be contacted; and

G. Requests from persons who have previously stated that he or she does not wish to receive an outbound telephone call made to promote Dish Network goods or services, or made by or on behalf of Dish Network.

IX. DISTRIBUTION AND ACKNOWLEDGEMENT OF ORDER

IT IS FURTHER ORDERED that Dish Network obtain acknowledgments of receipt of this Order:

A. Dish Network, within seven (7) days of the issuance of this Order, must submit to Plaintiffs an acknowledgment of receipt of this Order sworn under penalty of perjury.

B. For five (5) years after entry of this Order, Dish Network must deliver a copy of this Order to: (1) all principals, officers, directors, and LLC managers and members; (2) all employees, agents, and representatives who participate in telemarkeing; and (3) any business entity resulting from any change in structure as set forth in the Section titled Compliance Reporting. Delivery must occur within 7 days of entry of this Order for current personnel. For all others, delivery must occur before they assume their responsibilities.

C. From each individual or entity to which Dish Network delivered a copy of this Order, Dish Network must obtain, within 30 days, a signed and dated acknowledgment of receipt of this Order.

XI. RETENTION OF JURISDICTION

IT IS FURTHER ORDERED that this Court shall retain jurisdiction of this matter for purposes of construction, modification and enforcement of this Order.

Dated this ___ day of _____________, 2016.

IT IS SO ORDERED.

____

Sue E. Myerscough, United States District Judge

EXHIBIT 669

EXHIBIT 669

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by EDGAR® Online

DISH NETWORK CORP

FORM 10-K
(Annual Report)

Filed 02/22/17 for the Period Ending 12/31/16

Address	9601 S. MERIDIAN BLVD.
	ENGLEWOOD, CO 80112
Telephone	3037231000
CIK	0001001082
Symbol	DISH
SIC Code	4841 - Cable and Other Pay Television Services
Industry	Broadcasting
Sector	Consumer Cyclicals
Fiscal Year	12/31

DEFENDANT'S EXHIBIT
DTX-1109

JA013472
012215

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2016

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

FOR THE TRANSITION PERIOD FROM TO .

Commission file number: 0-26176

DISH Network Corporation

(Exact name of registrant as specified in its charter)

Nevada	**88-0336997**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
9601 South Meridian Boulevard **Englewood, Colorado**	**80112**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: **(303) 723-1000**

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Class A common stock, $0.01 par value	The Nasdaq Stock Market L.L.C.

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒	Accelerated filer ☐	Non-accelerated filer ☐ (Do not check if a smaller reporting company)	Smaller reporting company ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

As of June 30, 2016, the aggregate market value of Class A common stock held by non-affiliates of the registrant was $11.5 billion based upon the closing price of the Class A common stock as reported on the Nasdaq Global Select Market as of the close of business on the last trading day of the month.

As of February 13, 2017, the registrant's outstanding common stock consisted of 226,918,482 shares of Class A common stock and 238,435,208 shares of Class B common stock, each $0.01 par value.

DOCUMENTS INCORPORATED BY REFERENCE

The following documents are incorporated into this Form 10-K by reference:

Portions of the registrant's definitive Proxy Statement to be filed in connection with its 2017 Annual Meeting of Shareholders are incorporated by reference in Part III.

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DISCLOSURE REGARDING FORWARD-LOOKING STATEMENT S

Unless otherwise required by the context, in this report, the words "DISH Network," the "Company," "we," "our" and "us" refer to DISH Network Corporation and its subsidiaries, "EchoStar" refers to EchoStar Corporation and its subsidiaries, and "DISH DBS" refers to DISH DBS Corporation, a wholly-owned, indirect subsidiary of DISH Network, and its subsidiaries.

This Annual Report on Form 10-K contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, including, in particular, statements about our plans, objectives and strategies, growth opportunities in our industries and businesses, our expectations regarding future results, financial condition, liquidity and capital requirements, our estimates regarding the impact of regulatory developments and legal proceedings, and other trends and projections. Forward-looking statements are not historical facts and may be identified by words such as "future," "anticipate," "intend," "plan," "goal," "seek," "believe," "estimate," "expect," "predict," "will," "would," "could," "can," "may," and similar terms. These forward-looking statements are based on information available to us as of the date of this Annual Report on Form 10-K and represent management's current views and assumptions. Forward-looking statements are not guarantees of future performance, events or results and involve known and unknown risks, uncertainties and other factors, which may be beyond our control. Accordingly, actual performance, events or results could differ materially from those expressed or implied in the forward-looking statements due to a number of factors, including, but not limited to, the following:

Competition and Economic Risks

- As the pay-TV industry has matured and bundled offers combining video, broadband and/or wireless services have become more prevalent and competitive, we face intense and increasing competition from providers of video, broadband and/or wireless services, which may require us to further increase subscriber acquisition and retention spending or accept lower subscriber activations and higher subscriber churn.

- Changing consumer behavior and competition from digital media companies that provide or facilitate the delivery of video content via the Internet may reduce our gross new subscriber activations and may cause our subscribers to purchase fewer services from us or to cancel our services altogether, resulting in less revenue to us.

- Economic weakness and uncertainty may adversely affect our ability to grow or maintain our business.

- Our competitors may be able to leverage their relationships with programmers to reduce their programming costs and offer exclusive content that will place them at a competitive advantage to us.

- Our over-the-top ("OTT") Sling TV Internet-based services face certain risks, including, among others, significant competition.

- We face increasing competition from other distributors of unique programming services such as foreign language, sports programming, and original content that may limit our ability to maintain subscribers that desire these unique programming services.

Operational and Service Delivery Risks

- If we do not continue improving our operational performance and customer satisfaction, our gross new subscriber activations may decrease and our subscriber churn may increase.

- If our gross new subscriber activations continue to decrease, or if our subscriber churn, subscriber acquisition costs or retention costs increase, our financial performance will be adversely affected.

- Programming expenses are increasing and could adversely affect our future financial condition and results of operations.

- We depend on others to provide the programming that we offer to our subscribers and, if we fail to obtain or lose access to this programming, our gross new subscriber activations may decline and our subscriber churn may increase.
- We may not be able to obtain necessary retransmission consent agreements at acceptable rates, or at all, from local network stations.
- We may be required to make substantial additional investments to maintain competitive programming offerings.
- Any failure or inadequacy of our information technology infrastructure and communications systems, including without limitation those caused by cyber-attacks or other malicious activities, could disrupt or harm our business.
- We currently depend on EchoStar to design, develop and manufacture substantially all of our new DISH branded pay-TV set-top boxes and certain related components, to provide the vast majority of our satellite transponder capacity, to provide digital broadcast operations and other services to us, and to provide streaming delivery technology and infrastructure for our Sling TV services. Our business would be adversely affected if EchoStar ceases to provide these products and services to us and we are unable to obtain suitable replacement products and services from third parties.
- Technology in the pay-TV industry changes rapidly, and our success may depend in part on our timely introduction and implementation of, and effective investment in, new competitive products and services and more advanced equipment, and our failure to do so could cause our products and services to become obsolete and could negatively impact our business.
- We rely on a single vendor or a limited number of vendors to provide certain key products or services to us such as information technology support, billing systems, and security access devices, and the inability of these key vendors to meet our needs could have a material adverse effect on our business.
- Our primary supplier of new set-top boxes, EchoStar, relies on a few suppliers and in some cases a single supplier, for many components of our new set-top boxes, and any reduction or interruption in supplies or significant increase in the price of supplies could have a negative impact on our business.
- Our programming signals are subject to theft, and we are vulnerable to other forms of fraud that could require us to make significant expenditures to remedy.
- We depend on independent third parties to solicit orders for our services that represent a significant percentage of our total gross new subscriber activations.
- We have limited satellite capacity and failures or reduced capacity could adversely affect our DISH branded pay-TV service.
- Our owned and leased satellites are subject to construction, launch, operational and environmental risks that could limit our ability to utilize these satellites.
- We generally do not carry commercial launch or in-orbit insurance on any of the satellites that we use, other than certain satellites leased from third parties, and could face significant impairment charges if any of our owned satellites fail.
- We may have potential conflicts of interest with EchoStar due to our common ownership and management.
- We rely on key personnel and the loss of their services may negatively affect our business.

Acquisition and Capital Structure Risks

- We have made substantial investments to acquire certain wireless spectrum licenses and other related assets. In addition, we have made substantial non-controlling investments in the Northstar Entities and the SNR Entities related to AWS-3 wireless spectrum licenses.
- We face certain risks related to our non-controlling investments in the Northstar Entities and the SNR Entities, which may have a material adverse effect on our business, results of operations and financial condition.
- To the extent that we commercialize our wireless spectrum licenses, we will face certain risks entering and competing in the wireless services industry and operating a wireless services business.
- We may pursue acquisitions and other strategic transactions to complement or expand our business that may not be successful, and we may lose up to the entire value of our investment in these acquisitions and transactions.
- We may need additional capital, which may not be available on acceptable terms or at all, to continue investing in our business and to finance acquisitions and other strategic transactions.
- We have substantial debt outstanding and may incur additional debt.
- The conditional conversion features of our 3 3/8% Convertible Notes due 2026 (the "Convertible Notes due 2026"), if triggered, may adversely affect our financial condition.
- The convertible note hedge and warrant transactions that we entered into in connection with the offering of the Convertible Notes due 2026 may affect the value of the Convertible Notes due 2026 and our Class A common stock.
- We are subject to counterparty risk with respect to the convertible note hedge transactions.
- From time to time a portion of our investment portfolio may be invested in securities that have limited liquidity and may not be immediately accessible to support our financing needs, including investments in public companies that are highly speculative and have experienced and continue to experience volatility.
- It may be difficult for a third party to acquire us, even if doing so may be beneficial to our shareholders, because of our ownership structure.
- We are controlled by one principal stockholder who is also our Chairman and Chief Executive Officer.

Legal and Regulatory Risks

- A ruling in the Do Not Call litigation requiring us to pay substantial civil penalties and/or damages and/or enjoining us, whether acting directly or indirectly through authorized telemarketers or independent third-party retailers, from certain activities could have a material adverse effect on our results of operations, financial condition and cash flow.
- Our business depends on certain intellectual property rights and on not infringing the intellectual property rights of others.
- We are, and may become, party to various lawsuits which, if adversely decided, could have a significant adverse impact on our business, particularly lawsuits regarding intellectual property.
- Our ability to distribute video content via the Internet, including our Sling TV services, involves regulatory risk.
- Changes in the Cable Act of 1992 ("Cable Act"), and/or the rules of the Federal Communications Commission ("FCC") that implement the Cable Act, may limit our ability to access programming from cable-affiliated programmers at nondiscriminatory rates.

- The injunction against our retransmission of distant networks, which is currently waived, may be reinstated.
- We are subject to significant regulatory oversight, and changes in applicable regulatory requirements, including any adoption or modification of laws or regulations relating to the Internet, could adversely affect our business.
- Our business depends on FCC licenses that can expire or be revoked or modified and applications for FCC licenses that may not be granted.
- We are subject to digital high-definition (“HD”) “carry-one, carry-all” requirements that cause capacity constraints.
- Our business, investor confidence in our financial results and stock price may be adversely affected if our internal controls are not effective.
- We may face other risks described from time to time in periodic and current reports we file with the Securities and Exchange Commission (“SEC”).

Other factors that could cause or contribute to such differences include, but are not limited to, those discussed under the caption “Risk Factors” in Part I, Item 1A in this Annual Report on Form 10-K, those discussed in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” herein and those discussed in other documents we file with the SEC. All cautionary statements made or referred to herein should be read as being applicable to all forward-looking statements wherever they appear. Investors should consider the risks and uncertainties described or referred to herein and should not place undue reliance on any forward-looking statements. The forward-looking statements speak only as of the date made, and we expressly disclaim any obligation to update these forward-looking statements.

PART I

Item 1. BUSINES S

OVERVIEW

DISH Network Corporation was organized in 1995 as a corporation under the laws of the State of Nevada. We started offering the DISH® branded pay-TV service in March 1996 and are the nation's fourth largest pay-TV provider. Our common stock is publicly traded on the Nasdaq Global Select Market under the symbol "DISH." Our principal executive offices are located at 9601 South Meridian Boulevard, Englewood, Colorado 80112 and our telephone number is (303) 723-1000.

DISH Network Corporation is a holding company. Its subsidiaries operate two primary business segments.

Pay-TV and Broadband

We offer pay-TV services under the DISH® brand and the Sling® brand (collectively "Pay-TV" services). The DISH branded pay-TV service consists of, among other things, FCC licenses authorizing us to use direct broadcast satellite ("DBS") and Fixed Satellite Service ("FSS") spectrum, our owned and leased satellites, receiver systems, third-party broadcast operations, customer service facilities, a leased fiber optic network, in-home service and call center operations, and certain other assets utilized in our operations. The Sling branded pay-TV services consist of, among other things, live, linear streaming OTT Internet-based domestic, international and Latino video programming services ("Sling TV"). Prior to 2015, we launched our Sling International video programming service (formerly known as DishWorld), which historically represented a small percentage of our Pay-TV subscribers. In February and June 2015, we launched our Sling domestic and Sling Latino services, respectively. In addition to our original Sling domestic service that could only be streamed on one device at a time (single-stream service), in April 2016, we launched a live beta multi-stream Sling domestic service, which includes, among other things, the ability to stream on up to three devices simultaneously. In June 2016, our multi-stream Sling domestic service transitioned from its introductory beta period and was re-branded as Sling Blue. Meanwhile, we re-branded our original single-stream Sling domestic service as Sling Orange. All Sling branded pay-TV subscribers are included in our Pay-TV subscriber count. As of December 31, 2016, we had 13.671 million Pay-TV subscribers in the United States.

In addition, we market broadband services under the dishNET™ brand, which had 0.580 million subscribers in the United States as of December 31, 2016. Our satellite broadband service utilizes advanced technology and high-powered satellites launched by Hughes Communications, Inc. ("Hughes") and ViaSat, Inc. ("ViaSat") to provide broadband coverage nationwide. This service primarily targets rural residents that are underserved, or unserved, by wireline broadband. In addition to the dishNET branded satellite broadband service, we also offer wireline broadband services under the dishNET brand as a competitive local exchange carrier to consumers in certain areas in 34 states and wireline voice services in certain areas of 14 of those states that are located in the western United States. We primarily bundle our dishNET branded services with our DISH branded pay-TV service.

Wireless

DISH Network Spectrum

We have invested over $5.0 billion since 2008 to acquire certain wireless spectrum licenses and related assets. These wireless spectrum licenses are subject to certain interim and final build-out requirements. As we consider our options for the commercialization of our wireless spectrum, we may incur significant additional expenses and may have to make significant investments related to, among other things, research and development, wireless testing and wireless network infrastructure, as well as the acquisition of additional wireless spectrum.

Auction 1000. On February 10, 2016, we filed an application with the FCC to potentially participate as a bidder in the forward auction phase of the broadcast incentive auction in the 600 MHz frequency range ("Auction 1000"). The available spectrum in each licensed geographic area in Auction 1000 is generally comprised of certain paired 5x5 spectrum blocks (5 MHz uplink spectrum and 5 MHz downlink spectrum). As a result, a nationwide footprint may be obtained by aggregating a single 5x5 spectrum block in each available licensed geographic area.

Auction 1000 has had multiple stages, with each stage having two phases. With respect to each stage, in the first phase, or reverse auction phase, participating television broadcasters "sell" their rights to use certain broadcast television spectrum in the 600 MHz frequency range to the FCC. Then following the first phase of a stage, in the second phase, or forward auction phase, the FCC will "resell" that spectrum to auction participants. In the event that certain criteria are not met within a particular stage for Auction 1000 to conclude, Auction 1000 then proceeds to a subsequent stage with less available spectrum than the immediately preceding stage and lower spectrum clearing targets.

Before the forward auction phase of Stage 1 of Auction 1000 began, a qualified bidder in the forward auction could make an upfront deposit of up to approximately $5.4 billion. On July 15, 2016, the FCC announced that a subsidiary of DISH Network and 61 other applicants were qualified to participate in the forward auction. The FCC determined that bidding in Auction 1000 will be "anonymous," which means that prior to and during the course of the auction, the FCC will not make public any information about a specific applicant's upfront deposits or its bids. In addition, FCC rules restrict information that applicants may disclose about their participation in Auction 1000.

- *Stage 1:* The reverse auction phase of Stage 1 began on March 29, 2016 and ended on June 29, 2016. Pursuant to the FCC's procedures for Auction 1000 and based on the results of the reverse auction phase of Stage 1, in order for Auction 1000 to have ultimately concluded, the aggregate bids in the forward auction phase of Stage 1 would have had to have exceeded approximately $88.4 billion. The forward auction phase of Stage 1 included 100 MHz of spectrum in over 90% of the available licensed geographic areas, based on the broadcasters' indicated availability of spectrum in the reverse auction phase. The forward auction phase of Stage 1 began on August 16, 2016 and ended on August 30, 2016, but the aggregate bids of approximately $23.1 billion did not exceed the approximately $88.4 billion required for Auction 1000 to ultimately conclude. As a result, Auction 1000 moved to Stage 2.

- *Stage 2:* The reverse auction phase of Stage 2 began on September 13, 2016 and ended on October 13, 2016. Pursuant to the FCC's procedures for Auction 1000 and based on the results of the reverse auction phase of Stage 2, in order for Auction 1000 to have ultimately concluded, the aggregate bids in the forward auction phase of Stage 2 would have had to have exceeded approximately $56.5 billion. The forward auction phase of Stage 2 included 90 MHz of spectrum in over 90% of the available licensed geographic areas, based on the broadcasters' indicated availability of spectrum in the reverse auction phase. The forward auction phase of Stage 2 began and ended on October 19, 2016, but the aggregate bids of approximately $21.5 billion did not exceed the approximately $56.5 billion required for Auction 1000 to ultimately conclude. As a result, Auction 1000 moved to Stage 3.

- *Stage 3:* The reverse auction phase of Stage 3 began on November 1, 2016 and ended on December 1, 2016. Pursuant to the FCC's procedures for Auction 1000 and based on the results of the reverse auction phase of Stage 3, in order for Auction 1000 to have ultimately concluded, the aggregate bids in the forward auction phase of Stage 3 would have had to have exceeded approximately $42.3 billion. The forward auction phase of Stage 3 included 80 MHz of spectrum in over 90% of the available licensed geographic areas, based on the broadcasters' indicated availability of spectrum in the reverse auction phase. The forward auction phase of Stage 3 began and ended on December 5, 2016, but the aggregate bids of approximately $19.7 billion did not exceed the approximately $42.3 billion required for Auction 1000 to ultimately conclude. As a result, Auction 1000 moved to Stage 4.

- Stage 4: The reverse auction phase of Stage 4 began on December 13, 2016 and ended on January 13, 2017. Pursuant to the FCC's procedures for Auction 1000 and based on the results of the reverse auction phase of Stage 4, in order for Auction 1000 to ultimately conclude, the aggregate bids in the forward auction phase of Stage 4 would have to exceed approximately $12.0 billion. The forward auction phase of Stage 4 includes 70 MHz of spectrum in over 90% of the available licensed geographic areas, based on the broadcasters' indicated availability of spectrum in the reverse auction phase. The clock bidding portion of the forward auction phase of Stage 4 began on January 18, 2017 and ended on February 10, 2017. The aggregate bids of approximately $19.6 billion exceeded the approximately $12.0 billion required for Auction 1000 to ultimately conclude. As a result, Auction 1000 moved to the assignment portion of the forward auction phase in which winning bidders in the clock bidding portion have the opportunity to bid for frequency-specific licenses. The assignment portion is scheduled to begin on March 6, 2017, and all assignment rounds are expected to end no later than March 30, 2017. During the assignment portion, the FCC rules restricting information that forward auction applicants may disclose about their participation in Auction 1000 remain in place. As mentioned above, a subsidiary of DISH Network qualified to participate in the forward auction. To the extent that it is the winning bidder for any 600 MHz licenses, we would expect to pay for such licenses from any upfront deposit made with the FCC and/or existing cash and marketable investment securities balances.

See Note 14 " *Commitments and Contingencies — Wireless — DISH Network Spectrum* " in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

DISH Network Non-Controlling Investments in the Northstar Entities and the SNR Entities Related to AWS-3 Wireless Spectrum Licenses

Through our wholly-owned subsidiaries American AWS-3 Wireless II L.L.C. ("American II") and American AWS-3 Wireless III L.L.C. ("American III"), we have made over $10.0 billion in certain non-controlling investments in Northstar Spectrum, LLC ("Northstar Spectrum"), the parent company of Northstar Wireless, LLC ("Northstar Wireless," and collectively with Northstar Spectrum, the "Northstar Entities"), and in SNR Wireless HoldCo, LLC ("SNR HoldCo"), the parent company of SNR Wireless LicenseCo, LLC ("SNR Wireless," and collectively with SNR HoldCo, the "SNR Entities"), respectively. On October 27, 2015, the FCC granted certain AWS-3 wireless spectrum licenses (the "AWS-3 Licenses") to Northstar Wireless and to SNR Wireless, respectively, which are recorded in "FCC authorizations" on our Consolidated Balance Sheets. Under the applicable accounting guidance in Accounting Standards Codification 810, Consolidation ("ASC 810"), Northstar Spectrum and SNR HoldCo are considered variable interest entities and, based on the characteristics of the structure of these entities and in accordance with the applicable accounting guidance, we have consolidated these entities into our financial statements beginning in the fourth quarter 2014. See Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

The AWS-3 Licenses are subject to certain interim and final build-out requirements. We may need to make significant additional loans to the Northstar Entities and to the SNR Entities, or they may need to partner with others, so that the Northstar Entities and the SNR Entities may commercialize, build-out and integrate these AWS-3 Licenses, and comply with regulations applicable to such AWS-3 Licenses. Depending upon the nature and scope of such commercialization, build-out, integration efforts, and regulatory compliance, any such loans or partnerships could vary significantly. There can be no assurance that we will be able to obtain a profitable return on our non-controlling investments in the Northstar Entities and the SNR Entities.

See Note 14 " *Commitments and Contingencies — Wireless — DISH Network Non-Controlling Investments in the Northstar Entities and the SNR Entities Related to AWS-3 Wireless Spectrum Licenses* " in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Business Strategy

Our business strategy is to be the best provider of video services in the United States by providing products with the best technology, outstanding customer service, and great value. We promote our Pay-TV services as providing our subscribers with a better “price-to-value” relationship than those available from other subscription television service providers.

- *Products with the Best Technology.* We offer a wide selection of local and national HD programming and are a technology leader in our industry, offering award-winning DVRs (including our Hopper® whole-home HD DVR), multiple tuner receivers, 1080p video on demand, and external hard drives. We offer several Sling TV services, including Sling Orange (our single-stream Sling domestic service), Sling Blue (our multi-stream Sling domestic service), Sling International and Sling Latino.

- *Outstanding Customer Service.* We strive to provide outstanding customer service by improving the quality of the initial installation of subscriber equipment, improving the reliability of our equipment, better educating our customers about our products and services, and resolving customer problems promptly and effectively when they arise.

- *Great Value.* We have historically been viewed as the low-cost provider in the pay-TV industry in the U.S. because we seek to offer the lowest everyday prices available to consumers after introductory promotions expire. For example, during the third quarter 2016, we launched our Flex Pack skinny bundle with a core package of programming consisting of more than 50 channels and the choice of one of eight themed add-on channel packs, which include local broadcast networks and kids, national and regional sports and general entertainment programming. Subscribers can also add or remove additional channel packs to best suit their entertainment needs.

Products and Services

DISH branded pay-TV services. We offer a wide selection of video services under the DISH brand, with access to hundreds of channels depending on the level of subscription. Our standard programming packages generally include programming provided by national broadcast networks, local broadcast networks and national and regional cable networks. We also offer programming packages that include regional and specialty sports channels, premium movie channels and Latino and international programming. Our Latino and international programming packages allow subscribers to choose from over 250 channels in 28 languages.

In addition, we offer our DISH branded pay-TV subscribers streaming access through DISH On Demand® to thousands of movies and TV shows via their TV or Internet-connected tablets, smartphones and computers.

Our DISH branded pay-TV subscribers also have the ability to use dishanywhere.com and our mobile applications for smartphones and tablets to view authorized content, search program listings and remotely control certain features of their DVRs. Dishanywhere.com and our mobile applications provide access to thousands of movies and television shows.

Sling branded pay-TV services. We market our Sling TV services primarily to consumers who do not subscribe to traditional satellite and cable pay-TV services. Our Sling TV services require an Internet connection and are available on multiple streaming-capable devices including TVs, tablets, computers, game consoles and smart phones. We offer Sling International, Sling Latino and Sling domestic video programming services. In addition to our original Sling domestic service that could only be streamed on one device at a time (single-stream service), in April 2016, we launched a live beta multi-stream Sling domestic service, which includes, among other things, the ability to stream on up to three devices simultaneously. In June 2016, our multi-stream Sling domestic service transitioned from its introductory beta period and was re-branded as Sling Blue and our original single-stream Sling domestic service was re-branded as Sling Orange. All Sling branded pay-TV subscribers are included in our Pay-TV subscriber count.

Technology. Our DISH branded pay-TV subscribers receive programming via equipment that includes a small satellite dish, digital set-top receivers, and remote controls. Our Hopper and Joey® whole-home DVR promotes a suite of integrated features and functionality designed to maximize the convenience and ease of watching TV anytime and anywhere. It also has several innovative features that a consumer can use, at his or her option, to watch and record television programming, through their televisions, Internet-connected tablets, smartphones and computers. During the first quarter 2016, we made our next generation Hopper, the Hopper 3, available to customers nationwide. Among other things, the Hopper 3 features 16 tuners, delivers an enhanced 4K Ultra HD experience, and supports up to seven TVs simultaneously. In December 2016, Sling TV launched a cloud DVR beta program available for customers who subscribe to Sling Orange and/or Sling Blue using Roku devices. In January 2017, we launched AirTV Player, a new 4K Android TV-based streaming device, and AirTV Pro Install, a service that offers expertise, installation and setup of over-the-air ("OTA") antennas.

We rely on EchoStar to design and manufacture substantially all of our new receivers and certain related components. See " *Item 1A — Risk Factors* ."

Broadband. In addition to our wide selection of pay-TV programming and award-winning technology, we market a satellite broadband service under the dishNET brand. This service utilizes advanced technology and high-powered satellites launched by Hughes and ViaSat to provide broadband coverage nationwide. This service primarily targets rural residents that are underserved, or unserved, by wireline broadband, and provides download speeds of up to 15 megabits of data per second ("Mbps"). We lease the customer premise equipment to subscribers and generally pay Hughes and ViaSat a wholesale rate per subscriber on a monthly basis. Currently, we generally utilize our existing DISH Network distribution channels, including our DISH Network direct sales channels, under similar incentive arrangements as our DISH branded pay-TV business to acquire new broadband subscribers. New satellite launches by Hughes and ViaSat are expected to provide additional capacity in 2017. EchoStar XIX, a Hughes satellite, was launched on December 18, 2016.

In addition to the dishNET branded satellite broadband service, we also offer wireline broadband services under the dishNET brand as a competitive local exchange carrier to consumers in certain areas in 34 states and wireline voice services in certain areas of 14 of those states that are located in the western United States. Our dishNET branded wireline broadband service provides download speeds of up to 40 Mbps.

We primarily bundle our dishNET branded services with our DISH branded pay-TV service, to offer customers a single bill, payment and customer service option, which includes a discount for bundled services. In addition, we market and sell our dishNET branded services on a stand-alone basis.

New Business Opportunities

From time to time we evaluate opportunities for strategic investments or acquisitions that may complement our current services and products, enhance our technical capabilities, improve or sustain our competitive position, or otherwise offer growth opportunities.

Content Delivery

Digital Broadcast Operations Centers. The principal digital broadcast operations facilities that we use are EchoStar's facilities located in Cheyenne, Wyoming and Gilbert, Arizona. We also use seven regional digital broadcast operations facilities owned and operated by EchoStar that allow us to maximize the use of the spot beam capabilities of certain satellites. Programming content is delivered to these facilities by fiber or satellite and processed, compressed, encrypted and then uplinked to satellites for delivery to consumers. EchoStar provides certain broadcast services to us, including teleport services such as transmission and downlinking, channel origination services, and channel management services pursuant to a broadcast agreement that expires on December 31, 2017. See Note 18 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information on our Related Party Transactions with EchoStar.

Satellites. Our DISH branded pay-TV programming is primarily delivered to customers using satellites that operate in the "Ku" band portion of the microwave radio spectrum. The Ku-band is divided into two spectrum segments. The portion of the Ku-band that allows the use of higher power satellites (12.2 to 12.7 GHz over the United States) is known as the Broadcast Satellite Service band, which is also referred to as the DBS band. The portion of the Ku-band that utilizes lower power satellites (11.7 to 12.2 GHz over the United States) is known as the FSS band.

Most of our DISH branded pay-TV programming is currently delivered using DBS satellites. To accommodate more bandwidth-intensive HD programming and other needs, we continue to explore opportunities to expand our satellite capacity through the acquisition of additional spectrum, the launching of more technologically advanced satellites, and the more efficient use of existing spectrum via, among other things, better compression technologies.

We own or lease capacity on 13 satellites in geostationary orbit approximately 22,300 miles above the equator. For further information concerning these satellites and satellite anomalies, please see the table and discussion under *"Satellites"* below.

Conditional Access System . Our conditional access system secures our programming content using encryption so that only authorized customers can access our programming. We use microchips embedded in credit card-sized access cards, called "smart cards," or security chips in our receiver systems to control access to authorized programming content ("Security Access Devices").

Our signal encryption has been compromised in the past and may be compromised in the future even though we continue to respond with significant investment in security measures, such as Security Access Device replacement programs and updates in security software, that are intended to make signal theft more difficult. It has been our prior experience that security measures may only be effective for short periods of time or not at all and that we remain susceptible to additional signal theft. We expect that future replacements of our Security Access Devices may be necessary to keep our system secure. We cannot ensure that we will be successful in reducing or controlling theft of our programming content and we may incur additional costs in the future if our system's security is compromised.

Internet Connection. Our Sling TV services require an Internet connection and are available through multiple streaming-capable devices. Certain of our digital set-top boxes require an internet connection to enable full functionality, including streaming access through DISH On Demand, access to dishanywhere.com and other applications.

Distribution Channels

While we offer receiver systems and programming through direct sales channels, a significant percentage of our gross new subscriber activations are generated through independent third parties such as small satellite retailers, direct marketing groups, local and regional consumer electronics stores, nationwide retailers, and telecommunications companies. In general, we pay these independent third parties a mix of upfront and monthly incentives to solicit orders for our services and provide customer service. In addition, we partner with certain telecommunications companies to bundle DISH branded programming with broadband and/or voice services on a single bill.

Competition

Our business has historically focused on providing pay-TV services. We face substantial competition from established pay-TV providers and broadband service providers and increasing competition from companies providing/facilitating the delivery of video content via the Internet to computers, televisions, and other streaming and mobile devices, including wireless service providers. In recent years, the traditional pay-TV industry has matured, and industry consolidation and convergence has created competitors with greater scale and multiple product/service offerings. These developments, among others, have contributed to intense and increasing competition, and we expect such competition to continue.

Our Pay-TV services continue to face intense competition from traditional satellite television providers, cable companies and large telecommunication companies such as AT&T Inc. ("AT&T"), Comcast Corp. ("Comcast"), Charter Communications, Inc. ("Charter"), Verizon Communications, Inc. ("Verizon") and others, some of whom have greater financial, marketing and other resources than we do. Some of these companies also have significant investments in companies that provide programming content. In recent years, mergers and acquisitions, joint ventures and alliances among cable television providers, telecommunications companies and others have created, among other things, greater scale and financial leverage for the combined companies and increased the availability of bundled offerings combining video, broadband and/or wireless services. For example, in 2015 AT&T acquired DirecTV, our direct competitor and the largest satellite TV provider in the United States, which has recently launched an OTT service, DirecTV Now, that competes directly with our Sling branded pay-TV services. Furthermore, AT&T's acquisition of DirecTV, among other things, allows DirecTV access to AT&T's nationwide platform for wireless mobile video, and the ability to more seamlessly bundle its video services with AT&T's broadband Internet access and wireless services. In some cases, certain competitors have been able to potentially subsidize the price of video services with the price of other bundled services, particularly broadband services.

We also face increasing competition from content providers and other companies who distribute video directly to consumers over the Internet. These content providers and other companies, as well as traditional satellite television providers, cable companies and large telecommunication companies, are rapidly increasing their Internet-based video offerings. Programming offered over the Internet has become more prevalent and consumers are spending an increasing amount of time accessing video content via the Internet on their mobile devices. In particular, consumers have shown increased interest in viewing certain video programming in any place, at any time and/or on any broadband-connected device they choose. Video content distributed over the Internet includes services with live linear television programming such as DirecTV Now and Sony Vue, single programmer offerings such as HBO GO and CBS All Access, and offerings of large libraries of on-demand content, including in certain cases original content, by companies such as Netflix, Hulu, Apple, Amazon, Google and Verizon.

In addition to the traditional competition we have faced, new technologies have been, and will likely continue to be, developed that further increase the number of companies with whom we compete for video subscribers. For example, we face increasing competition from wireless telecommunications providers who offer mobile video offerings, other telephone companies who are finding ways to deliver video programming services over their wireline facilities or in a bundle with other multichannel video programming distributors ("MVPDs"), including among others, AT&T, and fiber-based networks including Google Fiber.

For further information see *"Item 1A — Risk Factors — Competition and Economic Risks — As the pay-TV industry has matured and bundled offers combining video, broadband and/or wireless services have become more prevalent and competitive, we face intense and increasing competition from providers of video, broadband and/or wireless services, which may require us to further increase subscriber acquisition and retention spending or accept lower subscriber activations and higher subscriber churn."* and *"Changing consumer behavior and competition from digital media companies that provide or facilitate the delivery of video content via the Internet may reduce our gross new subscriber activations and may cause our subscribers to purchase fewer services from us or to cancel our services altogether, resulting in less revenue to us."*

Acquisition of New Subscribers

We incur significant upfront costs to acquire subscribers, including advertising, independent third-party retailer incentives, equipment, installation services and new customer promotions. Certain customer promotions to acquire new subscribers result in less programming revenue to us over the promotional period. While we attempt to recoup these upfront costs over the lives of their subscriptions, there can be no assurance that we will be successful in achieving that objective. With respect to our DISH branded pay-TV service, we employ business rules such as minimum credit requirements for prospective customers and contractual commitments. We strive to provide outstanding customer service to increase the likelihood of customers keeping their Pay-TV service over longer periods of time. Subscriber acquisition costs for Sling branded pay-TV subscribers are significantly lower than those for DISH branded pay-TV subscribers, and therefore, as Sling branded pay-TV subscriber activations increase, it will have a positive impact on subscriber acquisition costs. Our subscriber acquisition costs may vary significantly from period to period.

Advertising . We use print, radio, television and Internet media, on a local and national basis to motivate potential subscribers to contact DISH Network and Sling TV, visit our websites or contact independent third-party retailers.

Retailer Incentives. In general, we pay independent third-party retailers an upfront incentive for each new DISH branded pay-TV subscriber they bring to DISH Network that results in the activation of qualified programming and generally pay independent third-party retailers small monthly incentives for up to 60 months; provided, among other things: (i) the independent third-party retailer continuously markets, promotes and solicits orders for DISH Network products and services; (ii) the independent third-party retailer continuously provides customer service to our DISH branded pay-TV subscribers; and (iii) the customer continuously subscribes to qualified programming.

Equipment . We incur significant upfront costs to provide our new DISH branded pay-TV subscribers with in-home equipment, including advanced HD and DVR receivers, which most of our new DISH branded pay-TV subscribers lease from us. While we seek to recoup these upfront equipment costs mostly through monthly fees, there can be no assurance that we will be successful in achieving that objective. In addition, upon deactivation of a subscriber we may refurbish and redeploy their equipment which lowers future upfront costs. However, our ability to capitalize on these cost savings may be limited as technological advances and consumer demand for new features may render the returned equipment obsolete.

Installation Services. We incur significant upfront costs to install satellite dishes and receivers in the homes of our new DISH branded pay-TV subscribers.

New Customer Promotions. We often offer our new DISH branded pay-TV subscribers programming at no additional charge and/or promotional pricing during introductory periods. While such promotional activities have an economic cost and reduce our subscriber-related revenue, they are not included in our definitions of subscriber acquisition costs or the Pay-TV SAC metric. We often offer our new Sling branded pay-TV subscribers free trials and/or streaming-capable devices at no additional charge and/or promotional pricing.

Customer Retention

We incur significant costs to retain our existing DISH branded pay-TV customers, mostly by upgrading their equipment to HD and DVR receivers and by providing retention credits. As with our subscriber acquisition costs, our retention upgrade spending includes the cost of equipment and installation services. In certain circumstances, we also offer programming at no additional charge and/or promotional pricing for limited periods for existing customers in exchange for a contractual commitment to receive service for a minimum term. A component of our retention efforts includes the re-installation of equipment for customers who move. Our subscriber retention costs may vary significantly from period to period.

Customer Service

Customer Service Centers . We use both internally-operated and outsourced customer service centers to handle calls and e-mails from prospective and existing customers. We strive to answer customer calls and e-mails promptly and to resolve issues effectively on the first call or e-mail. We also use the Internet and other applications to provide our customers with self-service capabilities.

Installation and Smart Home Service Operations . High - quality installations, upgrades, and Smart Home services and repairs are critical to providing DISH branded pay-TV subscribers with quality customer service. Such services and repairs are performed by both DISH Network employees and a network of independent contractors and includes, among other things, TV mounting, set-up and installation of wireless networks, surround sound systems and home theaters, priority technical support, replacement equipment, cabling and power surge repairs.

Subscriber Management . We presently use, and depend on, software systems for subscriber billing and related functions, including, among others, CSG Systems International, Inc.'s software system used for the DISH branded pay-TV and DishNET branded broadband services.

Relationship with EchoStar

On January 1, 2008, we completed the distribution of our technology and set-top box business and certain infrastructure assets (the "Spin-off") into a separate publicly-traded company, EchoStar. DISH Network and EchoStar operate as separate publicly-traded companies and, except for the Satellite and Tracking Stock Transaction and Sling TV Holding L.L.C. ("Sling TV Holding") discussed in Note 18 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K, neither entity has any ownership interest in the other. However, a substantial majority of the voting power of the shares of both DISH Network and EchoStar is owned beneficially by Charles W. Ergen, our Chairman and Chief Executive Officer, and by certain trusts established by Mr. Ergen for the benefit of his family. EchoStar is our primary supplier of digital set-top boxes and digital broadcast operations. In addition, EchoStar provides the vast majority of our satellite transponder capacity, is a key supplier of related services to us, and provides the streaming delivery technology and infrastructure for our Sling TV services. Furthermore, Hughes, a subsidiary of EchoStar, provides us with satellite broadband Internet services on a wholesale basis, which we then distribute under our dishNET™ brand. See " *Item 1A. Risk Factors"* and Note 18 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Recent Developments. On January 31, 2017, we and our indirect wholly-owned subsidiaries DISH Network L.L.C. ("DNLLC") and DISH Operating L.L.C. ("DOLLC"), entered into a Share Exchange Agreement (the "Share Exchange Agreement") with EchoStar, EchoStar Broadcasting Holding Parent L.L.C., an indirect wholly-owned subsidiary of EchoStar ("EB Holdco"), EchoStar Broadcasting Holding Corporation, a direct, wholly-owned subsidiary of EB Holdco ("EB Splitco"), EchoStar Technologies Holding Corporation, a direct wholly-owned subsidiary of EchoStar ("ET Splitco"), and EchoStar Technologies L.L.C., a direct wholly-owned subsidiary of EchoStar ("ETLLC").

Pursuant to the Share Exchange Agreement, among other things: (i) EchoStar will complete the steps necessary for certain assets and liabilities of the EchoStar technologies and EchoStar broadcasting businesses, consisting primarily of the businesses that design, develop and distribute digital set-top boxes, provide satellite uplinking services and develop and support streaming video technology, as well as certain investments in joint ventures, spectrum licenses, real estate properties and EchoStar's ten percent non-voting interest in Sling TV Holding (the "Transferred Businesses"), to be transferred to EB Splitco and ET Splitco; and (ii) EchoStar will transfer to us 100% of the equity of EB Splitco and ET Splitco, and in exchange, we will transfer to EchoStar the 6,290,499 shares of preferred tracking stock issued by EchoStar (the "EchoStar Tracking Stock") and 81.128 shares of preferred tracking stock issued by Hughes Satellite Systems Corporation, a subsidiary of EchoStar ("HSSC"), (the "HSSC Tracking Stock," and together with the EchoStar Tracking Stock, collectively, the "Tracking Stock"), that track the residential retail satellite broadband business of Hughes Network Systems, LLC, a wholly-owned subsidiary of HSSC ("HNS") ((i) and (ii) collectively, the "Transaction"). The Transaction has been structured in a manner to be a tax-free exchange for each of us and EchoStar.

The closing of the Transaction is subject to various conditions. The Transaction is expected to be consummated three business days after the satisfaction or waiver of all of the closing conditions to the Transaction (other than conditions that by their nature are to be satisfied at the closing, but subject, among other things, to the satisfaction or waiver of those conditions at such time), but no earlier than February 28, 2017. The Share Exchange Agreement provides for customary termination rights, including the right of either party to terminate the Share Exchange Agreement if the Transaction has not closed by March 31, 2017. In connection with the Share Exchange Agreement, we and EchoStar and certain of their subsidiaries will, at the closing, enter into certain customary agreements covering, among other things, tax matters, employee matters, intellectual property matters and the provision of transitional services. The financial results related to the Share Exchange Agreement are not included in our consolidated financial statements for all periods presented as the closing of the Transaction is subject to various conditions and is not expected to close prior to February 28, 2017. See Note 18 to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

SATELLITES

Pay-TV Satellites . Most of our DISH branded pay-TV programming is currently delivered using DBS satellites. We continue to explore opportunities to expand our available satellite capacity through the use of other available spectrum. Increasing our available spectrum is particularly important as more bandwidth intensive HD programming is produced and to address new video and data applications consumers may desire in the future. We currently utilize 13 satellites in geostationary orbit approximately 22,300 miles above the equator as detailed in the table below.

Satellites	Launch Date	Degree Orbital Location	Estimated Useful Life (Years) / Lease Termination Date
Owned:			
EchoStar XV	July 2010	61.5	15
EchoStar XVIII	June 2016	61.5	15
Leased from EchoStar (1):			
EchoStar VII (2)	February 2002	119	June 2018
EchoStar IX	August 2003	121	Month to month
EchoStar X (2)	February 2006	110	February 2021
EchoStar XI (2)	July 2008	110	September 2021
EchoStar XII (2)	July 2003	61.5	September 2017
EchoStar XIV (2)	March 2010	119	February 2023
EchoStar XVI (3)	November 2012	61.5	January 2018
Nimiq 5	September 2009	72.7	September 2019
QuetzSat-1	September 2011	77	November 2021
Leased from Other Third Party:			
Anik F3	April 2007	118.7	April 2022
Ciel II	December 2008	129	January 2019

(1) See Note 18 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information on our Related Party Transactions with EchoStar.
(2) We generally have the option to renew each lease on a year-to-year basis through the end of the useful life of the respective satellite.
(3) We have the option to renew this lease for an additional five-year period. If we exercise our five-year renewal option, we have the option to renew this lease for an additional five years.

Satellite Anomalies

Operation of our DISH branded pay-TV service requires that we have adequate satellite transmission capacity for the programming that we offer. While we generally have had in-orbit satellite capacity sufficient to transmit our existing channels and some backup capacity to recover the transmission of certain critical programming, our backup capacity is limited.

In the event of a failure or loss of any of our owned or leased satellites, we may need to acquire or lease additional satellite capacity or relocate one of our other owned or leased satellites and use it as a replacement for the failed or lost satellite. Such a failure could result in a prolonged loss of critical programming or a significant delay in our plans to expand programming as necessary to remain competitive and thus may have a material adverse effect on our business, financial condition and results of operations.

In the past, certain of our owned and leased satellites have experienced anomalies, some of which have had a significant adverse impact on their remaining useful life and/or commercial operation. There can be no assurance that future anomalies will not impact the remaining useful life and/or commercial operation of any of the owned and leased satellites in our fleet. See "Impairment of Long-Lived Assets" in Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information on evaluation of impairment. There can be no assurance that we can recover critical transmission capacity in the event one or more of our owned or leased in-orbit satellites were to fail. We generally do not carry commercial launch or in-orbit insurance on any of the satellites that we use, other than certain satellites leased from third parties, and therefore, we will bear the risk associated with any uninsured launch or in-orbit satellite failures. In light of current favorable market conditions, in January 2016, we procured commercial launch and in-orbit insurance (for a period of one year following launch) for the EchoStar XVIII satellite, which was launched on June 18, 2016.

AWS-4 Satellites. We own two in-orbit AWS-4 satellites (D1 and T1), as detailed in the table below.

Satellites	Launch Date	Degree Orbital Location	Estimated Useful Life (Years)
Owned:			
T1	July 2009	111.1	15
D1	April 2008	92.85	N/A

See Note 8 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information on our satellites.

GOVERNMENT REGULATIONS

Our operations, particularly our pay-TV and broadband operations, and our wireless spectrum licenses are subject to significant government regulation and oversight, primarily by the FCC and, to a certain extent, by Congress, other federal agencies and foreign, state and local authorities. Depending upon the circumstances, noncompliance with legislation or regulations promulgated by these authorities could result in limitations on, or the suspension or revocation of, our licenses or registrations, the termination or loss of contracts or the imposition of contractual damages, civil fines or criminal penalties, any of which could have a material adverse effect on our business, financial condition and results of operations. These governmental authorities could also adopt regulations or take other actions that would adversely affect our business prospects.

Furthermore, the recent change in the Administration and any government policy changes it may institute, which may be substantial, could increase regulatory uncertainty. The adoption or modification of laws or regulations relating to video programming, satellite services, wireless telecommunications, broadband, the Internet or other areas of our business could limit or otherwise adversely affect the manner in which we currently conduct our business. In addition, the manner in which regulations or legislation in these areas, including the FCC's Open Internet rules, may be interpreted and enforced cannot be precisely determined, which in turn could have an adverse effect on our business, financial condition and results of operations.

Wireless services and our wireless spectrum licenses are subject to regulation by the FCC and, depending on the jurisdiction, other federal, state and local, as well as international, governmental authorities and regulatory agencies, including, among other things, regulations governing the licensing, construction, operation, sale and interconnection arrangements of wireless telecommunications systems. In particular, the FCC imposes significant regulation on licensees of wireless spectrum with respect to how radio spectrum is used by licensees, the nature of the services that licensees may offer and how the services may be offered, and resolution of issues of interference between spectrum bands. The FCC grants wireless licenses for terms of generally 10-12 years that are subject to renewal or revocation. There can be no assurances that our wireless spectrum licenses will be renewed. Failure to comply with FCC build-out requirements in a given license area may result in acceleration of other build-out requirements or in the modification, cancellation, or non-renewal of licenses. For further information related to our licenses and build-out requirements related to our wireless spectrum licenses see "*Item 1A. Risk Factors — Acquisition and Capital Structure Risks — We have made substantial investments to acquire certain wireless spectrum licenses and other related assets. In addition, we have made substantial non-controlling investments in the Northstar Entities and the SNR Entities related to AWS-3 wireless spectrum licenses.*"

The following summary of regulatory developments and legislation in the United States is not intended to describe all present and proposed government regulation and legislation affecting the video programming distribution, satellite services, wireless telecommunications and broadband industries. Government regulations that are currently the subject of judicial or administrative proceedings, legislative hearings or administrative proposals could change these industries to varying degrees. We cannot predict either the outcome of these proceedings or any potential impact they might have on these industries or on our operations.

FCC Regulations Governing our Pay-TV Operations

FCC Jurisdiction over our DBS Satellite Operations . The Communications Act of 1934, as amended (the "Communications Act"), gives the FCC broad authority to regulate the operations of satellite companies. Specifically, the Communications Act gives the FCC regulatory jurisdiction over the following areas relating to communications satellite operations:

- the assignment of satellite radio frequencies and orbital locations, the licensing of satellites and earth stations, the granting of related authorizations, and evaluation of the fitness of a company to be a licensee;
- approval for the relocation of satellites to different orbital locations or the replacement of an existing satellite with a new satellite;
- ensuring compliance with the terms and conditions of such assignments, licenses, authorizations and approvals, including required timetables for construction and operation of satellites;
- avoiding interference with other radio frequency emitters; and
- ensuring compliance with other applicable provisions of the Communications Act and FCC rules and regulations.

To obtain FCC satellite licenses and authorizations, satellite operators must satisfy strict legal, technical and financial qualification requirements. Once issued, these licenses and authorizations are subject to a number of conditions including, among other things, satisfaction of ongoing due diligence obligations, construction milestones, and various reporting requirements. Necessary federal approval of these applications may not be granted, may not be granted in a timely manner, or may be granted subject to conditions that may be cumbersome.

Overview of our DBS Satellites, Authorizations and Contractual Rights for Satellite Capacity . Our satellites are located in orbital positions, or slots, that are designated by their western longitude. An orbital position describes both a physical location and an assignment of spectrum in the applicable frequency band. Each DBS orbital position has 500 MHz of available Ku-band spectrum that is divided into 32 frequency channels. Several of our satellites also include spot-beam technology that enables us to increase the number of markets where we provide local channels, but reduces the number of video channels that could otherwise be offered across the entire United States.

The FCC has licensed us to operate a total of 50 DBS frequency channels at the following orbital locations:

- 21 DBS frequency channels at the 119 degree orbital location, capable of providing service to the continental United States ("CONUS"); and
- 29 DBS frequency channels at the 110 degree orbital location, capable of providing service to CONUS.

In addition, we currently lease or have entered into agreements to lease capacity on satellites using the following spectrum at the following orbital locations:

- 500 MHz of Ku-band FSS spectrum that is divided into 32 frequency channels at the 118.7 degree orbital location, which is a Canadian FSS slot that is capable of providing service to CONUS, Alaska and Hawaii;
- 32 DBS frequency channels at the 129 degree orbital location, which is a Canadian DBS slot that is capable of providing service to most of the United States;
- 32 DBS frequency channels at the 61.5 degree orbital location, capable of providing service to most of the United States;
- 24 DBS frequency channels at the 77 degree orbital location, which is a Mexican DBS slot that is capable of providing service to most of the United States and Mexico; and
- 32 DBS frequency channels at the 72.7 degree orbital location, which is a Canadian DBS slot that is capable of providing service to CONUS.

We also have month-to-month FSS capacity available from EchoStar on a satellite located at the 121 degree orbital location and a lease for FSS capacity available from EchoStar on a satellite located at the 103 degree orbital location.

In June 2015, the FCC granted us authority to provide service to the United States from a Canadian-licensed satellite using Reverse Band Ka frequencies at the 103 degree orbital location.

Duration of our DBS Satellite Licenses . Generally speaking, all of our satellite licenses are subject to expiration unless renewed by the FCC. The term of each of our DBS licenses is ten years. Our licenses are currently set to expire at various times. In addition, at various times we have relied on special temporary authorizations for our operations. A special temporary authorization is granted for a period of only 180 days or less, subject again to possible renewal by the FCC. From time to time, we apply for authorizations to use new satellites at our existing orbital locations. Generally, our FCC licenses and special temporary authorizations have been renewed, and our applications for new satellites at our existing orbital locations have been approved, by the FCC on a routine basis, but there can be no assurance that the FCC will continue to do so.

Opposition and Other Risks to our Licenses . Several third parties have opposed in the past, and we expect these or other parties to oppose in the future, some of our FCC satellite authorizations and pending and future requests to the FCC for extensions, modifications, waivers and approvals of our licenses. In addition, we must comply with numerous FCC reporting, filing and other requirements in connection with our satellite authorizations. Consequently, it is possible the FCC could revoke, terminate, condition or decline to extend or renew certain of our authorizations or licenses.

4.5 Degree Spacing "Tweener" Satellites . The FCC has proposed to allow so-called "tweener" DBS operations — DBS satellites operating at orbital locations 4.5 degrees (half of the usual nine degrees) away from other DBS satellites. The FCC granted authorizations to EchoStar and Spectrum Five for tweener satellites at the 86.5 and 114.5 degree orbital locations, respectively. These authorizations were subsequently cancelled because the FCC determined that the licensees did not meet certain milestone requirements. Tweener operations close to our licensed orbital locations could cause harmful interference to our service and constrain our future operations. The FCC has not completed its rulemaking on the operating and service rules for tweener satellites.

Interference from Other Services Sharing Satellite Spectrum . The FCC has adopted rules that allow non-geostationary orbit ("NGSO") fixed satellite services to operate on a co-primary basis in the same frequency band as DBS and FSS. The FCC has also authorized the use of multichannel video distribution and data service ("MVDDS") licenses in the DBS band. MVDDS licenses were auctioned in 2004. MVDDS systems are now only beginning to be commercially deployed in a few markets. We have MVDDS licenses in 82 out of 214 geographical license areas. Despite regulatory provisions intended to protect DBS and FSS operations from harmful interference, there can be no assurance that operations by other satellites or terrestrial communication services in the DBS and FSS bands will not interfere with our DBS and FSS operations and adversely affect our business.

OneWeb LLC ("OneWeb") and others have filed requests with the FCC for authority to launch and operate, or provide service from, NGSO satellite systems using a variety of spectrum bands, including the 12.2-12.7 GHz band, which we use for our DBS service, and where we also have certain licenses to provide one-way terrestrial MVDDS service. If these requests are granted and these systems are launched and put into operation, there can be no assurance that they will not interfere with our DBS operations and adversely affect our business or that they will not hinder our ability to provide MVDDS service.

Satellite Competition from Additional Slots and Interference . AT&T, through DirecTV, has obtained FCC authority to provide service to the United States from a Canadian DBS orbital slot, and EchoStar has obtained authority to provide service to the United States from both a Mexican and a Canadian DBS orbital slot. Further, we have also received authority to do the same from a Canadian DBS orbital slot at 129 degrees and a Canadian FSS orbital slot at 118.7 degrees. The possibility that the FCC will allow service to the U.S. from additional foreign slots may permit additional competition against us from other satellite providers. It may also provide a means by which to increase our available satellite capacity in the United States. In addition, a number of administrations, such as Great Britain and the Netherlands, have requested authority to add orbital locations serving the U.S. close to our licensed slots. Such operations could cause harmful interference to our satellites and constrain our future operations.

Rules Relating to Broadcast Services . The FCC imposes different rules for "subscription" and "broadcast" services. We believe that, because our DISH-branded pay-TV service offers a subscription programming service, we are not subject to many of the regulatory obligations imposed upon broadcast licensees. However, we cannot be certain whether the FCC will find in the future that we must comply with regulatory obligations as a broadcast licensee. If the FCC determines that we are a broadcast licensee, it could require us to comply with all regulatory obligations imposed upon broadcast licensees, which in certain respects are subject to more burdensome regulation than subscription television service providers.

Public Interest Requirements . The FCC imposes certain public interest obligations on our DBS licenses. These obligations require us to set aside four percent of our channel capacity exclusively for noncommercial programming for which we must charge programmers below-cost rates and for which we may not impose additional charges on subscribers. The Satellite Television Extension and Localism Act of 2010 ("STELA") required the FCC to decrease this set-aside to 3.5 percent for satellite carriers who provide retransmission of state public affairs networks in 15 states and are otherwise qualified. The FCC, however, has not yet determined whether we qualify for this decrease in set-aside. The obligation to provide noncommercial programming may displace programming for which we could earn commercial rates and could adversely affect our financial results. We cannot be sure that, if the FCC were to review our methodology for processing public interest carriage requests, computing the channel capacity we must set aside or determining the rates that we charge public interest programmers, it would find them in compliance with the public interest requirements.

Separate Security, Plug and Play . The STELA Reauthorization Act of 2014 ("STELAR") ended the "integration ban" that required cable companies to separate security functionality from the other features of their set-top boxes and that required leased cable set-top boxes to include CableCARDs effective December 2015. Set-top boxes used by DBS providers were not subject to this separate security requirement. STELAR required the FCC to establish a working group of technical experts to identify and report on downloadable security design options that are not unduly burdensome and that promote competition with respect to the availability of navigation devices. The working group released a report in August 2015, which declined to offer a consensus recommendation regarding downloadable security design options. However, we cannot predict whether the FCC will take further action regarding downloadable security. Also, the FCC adopted the so-called "plug and play" standard for compatibility between digital television sets and cable systems. That standard was developed through negotiations involving the cable and consumer electronics industries, but not the satellite television industry. The FCC's adoption of the standard was accompanied by certain rules regarding copy protection measures that were applicable to us. We appealed the FCC's decision regarding the copy protection measures to the U.S. Court of Appeals for the D.C. Circuit ("D.C. Circuit") and on January 15, 2013 the D.C. Circuit vacated the FCC's decision. The FCC is also considering various proposals to establish two-way digital cable "plug and play" rules. That proceeding also asks about means to incorporate all pay-TV providers into its "plug and play" rules. The cable industry and consumer electronics companies have reached a "tru2way" commercial arrangement to resolve many of the outstanding issues in this docket. We cannot predict whether the FCC will impose rules on our DBS operations that are based on cable system architectures or the private cable/consumer electronics tru2way commercial arrangement. Complying with the separate security and other "plug and play" requirements may not be technically feasible or may require potentially costly modifications to our set-top boxes and operations. We cannot predict the timing or outcome of this FCC proceeding.

In 2016, the FCC adopted a notice of proposed rulemaking regarding possible new regulations that would generally require pay-TV providers, among others, to make their video services operate on any third-party device. Under the FCC's proposal, consumers would have the choice of accessing cable and satellite programming through the pay-TV operator's products and services, or through products and services offered by a third party. These regulations, if adopted, would have the potential to impose new costs on our DISH branded pay-TV business by, among other things, requiring us to deploy additional hardware or software to enable our DISH branded pay-TV service to operate with third-party devices. In February 2017, the FCC closed this rule making proceeding and no regulations were adopted. However, we cannot be certain that the FCC will not open a new proceeding in the future to pursue similar regulations.

Retransmission Consent . The Copyright Act generally gives satellite companies a statutory copyright license to retransmit local broadcast channels by satellite back into the market from which they originated, subject to obtaining the retransmission consent of local network stations that do not elect "must carry" status, as required by the Communications Act. If we fail to reach retransmission consent agreements with such broadcasters, we cannot carry their signals. This could have an adverse effect on our strategy to compete with cable and other satellite companies that provide local signals. While we have been able to reach retransmission consent agreements with most of these local network stations, from time to time there are stations with which we have not been able to reach an agreement. We cannot be sure that we will secure these agreements or that we will secure new agreements on acceptable terms, or at all, upon the expiration of our current retransmission consent agreements, some of which are short-term. In recent years, national broadcasters have used their ownership of certain local broadcast stations to require us to carry additional cable programming in exchange for retransmission consent of their local broadcast stations. These requirements may place constraints on available capacity on our satellites for other programming. Furthermore, the rates we are charged for retransmitting local channels have been increasing substantially and may exceed our ability to increase our prices to our customers, which could have a material adverse effect on our business, financial condition and results of operations. In addition, the broadcast stations' demands for higher rates have resulted in more frequent negotiating impasses and programming interruptions. During these programming interruptions, our subscribers in the affected markets lack access to popular programming and may switch to another multichannel distributor that may be able to provide them with such programming.

In 2015, the FCC commenced a rulemaking proceeding as required by STELAR to review its "totality of circumstances" test for ensuring that television stations and MVPDs negotiate retransmission consent agreements in "good faith." In 2016, the Chairman of the FCC announced that the FCC would not proceed at that time to adopt additional rules governing good faith negotiations for retransmission consent. STELAR prohibits television stations from coordinating or engaging in joint retransmission consent negotiations with any other local television stations, unless the stations are "directly or indirectly under common de jure control," expanding a previous FCC ruling prohibiting joint negotiations only among the top four stations in a market. In addition, STELAR prohibits a local television station from limiting an MVPD's ability to carry other television signals that have been deemed by the FCC to be "significantly viewed" or to carry any other television signal the MVPD is otherwise entitled to carry under the Communications Act, unless such stations are "directly or indirectly under common de jure control" pursuant to FCC regulations. We cannot predict if these restrictions on broadcasters will result in more effective retransmission consent negotiations.

ATSC 3.0. In April 2016, the broadcast industry petitioned the FCC to authorize the use of the "Next Generation TV" broadcast television standard, ATSC 3.0. The FCC is expected to commence a rulemaking in the first quarter of 2017 to consider rules authorizing broadcasters to use ATSC 3.0. If the FCC moves forward with enabling the transition to ATSC 3.0, supporting this new standard could, among other things, require us to deploy new equipment and may impact our carriage obligations. We cannot predict whether the FCC will change its rules to enable the use of ATSC 3.0 and the effect that any such changes could have on our equipment costs, carriage obligations, or the retransmission consent process.

Media Ownership Rules. Also in 2016, the broadcast industry petitioned the FCC to relax its media ownership rules, which, among other things, limit the number of commonly owned TV stations per market and restrict newspaper/broadcast cross-ownership and radio/TV cross-ownership. If the FCC were to relax some or all of its media ownership rules, it could increase the negotiating leverage that broadcasters hold in retransmission consent negotiations. We cannot predict whether the FCC will change any of its media ownership rules and the effect that any such changes could have on our future retransmission consent negotiations.

Digital HD Carry-One, Carry-All Requirement . To provide any full-power local broadcast signal in any market, we are required to retransmit all qualifying broadcast signals in that market ("carry-one, carry-all"), including the carriage of full-power broadcasters' HD signals in markets in which we elect to provide local channels in HD. The carriage of additional HD signals on our DISH branded pay-TV service could cause us to experience significant capacity constraints and prevent us from carrying additional popular national channels and/or carrying those national channels in HD.

Distant Signals . Pursuant to STELA, we obtained a waiver of a court injunction that previously prevented us from retransmitting certain distant network signals under a statutory copyright license. Because of that waiver, we may provide distant network signals to eligible subscribers. To qualify for that waiver, we are required to provide local service in all 210 local markets in the U.S. on an ongoing basis. This condition poses a significant strain on our capacity. Moreover, we may lose that waiver if we are found to have failed to provide local service in any of the 210 local markets. If we lose the waiver, the injunction could be reinstated. Furthermore, depending on the severity of the failure, we may also be subject to other sanctions, which may include, among other things, damages.

Cable Act and Program Access . We purchase a large percentage of our programming from cable-affiliated programmers. Pursuant to the Cable Act, cable providers had been prohibited from entering into exclusive contracts with cable-affiliated programmers. The Cable Act directed that this prohibition expire after a certain period of time unless the FCC determined that the prohibition continued to be necessary. On October 5, 2012, the FCC allowed this prohibition to expire. While the FCC has issued a Further Notice of Proposed Rulemaking aimed at serving some of the same objectives as the prohibition, there can be no assurances that such protections will be adopted or be as effective as the prohibition if they are adopted. In the event that this decision is reconsidered by the FCC or reviewed by a court of appeals, we cannot predict the timing or outcome of any subsequent FCC decision.

As a result of the expiration of this prohibition on exclusivity, we may be limited in our ability to obtain access at all, or on nondiscriminatory terms, to programming from programmers that are affiliated with cable system operators. In addition, any other changes in the Cable Act, and/or the FCC's rules that implement the Cable Act, that currently limit the ability of cable-affiliated programmers to discriminate against competing businesses such as ours, could adversely affect our ability to acquire cable-affiliated programming at all or to acquire programming on nondiscriminatory terms.

Furthermore, the FCC had imposed program access conditions on certain cable companies as a result of mergers, consolidations or affiliations with programmers. The expiration of the exclusivity prohibition in the Cable Act triggered the termination of certain program access conditions that the FCC had imposed on Liberty Media Corporation ("Liberty"). In July 2012, similar program access conditions that had applied to Time Warner Cable Inc. ("Time Warner Cable"), which was acquired by Charter in 2016, expired as previously scheduled. These developments may adversely affect our ability to obtain Liberty's and Charter's programming, or to obtain it on nondiscriminatory terms. In the case of certain types of programming affiliated with Comcast through its control of NBCUniversal Media, LLC ("NBCUniversal"), the prohibition on exclusivity is set to expire in January 2018, and we will not be able to rely on these protections beyond that date. Until that time, we have the right to subject the terms of access to NBCUniversal's programming to binding arbitration if we and the programmer cannot reach agreement on terms, subject to FCC review. There can be no assurance that this procedure will result in favorable terms for us.

In addition, affiliates of certain cable providers have denied us access to sports programming that they supply to their cable systems terrestrially, rather than by satellite. The FCC has held that new denials of such service are unfair if they have the purpose or effect of significantly hindering us from providing programming to consumers. However, we cannot be sure that we can prevail in a complaint related to such programming and gain access to it. Our continuing failure to access such programming could materially and adversely affect our ability to compete in regions serviced by these cable providers.

MDU Exclusivity . The FCC has found that cable companies should not be permitted to have exclusive relationships with multiple dwelling units (e.g., apartment buildings). In May 2009, the D.C. Circuit upheld the FCC's decision. While the FCC requested comments in November 2007 on whether DBS and Private Cable Operators should be prohibited from having similar relationships with multiple dwelling units, it has yet to make a formal decision. If the cable exclusivity ban were to be extended to DBS providers, our ability to serve these types of buildings and communities would be adversely affected. We cannot predict the timing or outcome of the FCC's consideration of this proposal.

Open Internet. In 2015, the FCC imposed Open Internet rules, which apply to both fixed and mobile broadband access providers and prohibit them, among other things, from blocking or throttling traffic, from paid prioritization, and from unreasonably interfering with, or disadvantaging, consumers' or content providers' access to the Internet. In addition, because the FCC reclassified broadband access providers as common carriers, these providers are subject to the general common carrier requirements of reasonableness and nondiscrimination. The rules were affirmed by a panel of the D.C. Circuit. A number of broadband access providers and their associations have filed a petition for an "en banc" hearing by the full D.C. Circuit, and have stated that they intend to pursue the challenge to the United States Supreme Court if rehearing is denied. While this decision provides certain protections from discrimination by broadband access providers against our distribution of video content, including our Sling TV services, via the Internet, it may still permit broadband access providers to provide certain services over their network that are not subject to these requirements. In addition, obligations imposed under the rules on mobile access providers may hinder our ability to provide services using our wireless spectrum licenses.

Comcast-NBCUniversal . In January 2011, the FCC and the Department of Justice approved a transaction between Comcast and General Electric Company ("General Electric"), pursuant to which they joined their programming properties, including NBC, Bravo and many others, in a venture, NBCUniversal, controlled by Comcast. In March 2013, Comcast completed the acquisition of substantially all of General Electric's remaining interest in NBCUniversal. The FCC conditioned its approval on, among other things, Comcast complying with the terms of the FCC's order on network neutrality (even if that order is vacated by judicial or legislative action) and Comcast licensing its affiliated content to us, other traditional pay-TV providers and certain providers of video services over the Internet on fair and nondiscriminatory terms and conditions, including, among others, price. If Comcast does not license its affiliated content to us on fair and nondiscriminatory terms and conditions, we can seek binding arbitration and continue to carry such content while the arbitration is pending. However, it is uncertain how these conditions may be interpreted and enforced by the FCC; therefore, we cannot predict the practical effect of these conditions. In addition, as these conditions expire in January 2018, we will not be able to rely on these protections beyond that date.

Charter/Time Warner Cable. In May 2016, the FCC and the Department of Justice approved a merger transaction between Charter, Time Warner Cable, and Advance/Newhouse Partnership. The FCC conditioned its approval on, among other things, Charter not imposing data caps or usage-based pricing for its residential broadband service and a requirement that Charter provide settlement-free interconnection. These conditions last for seven years, with Charter having the option after four years to petition to shorten the term to five years. It is uncertain how these conditions may be interpreted or enforced by the FCC; therefore, we cannot predict the practical effect of these conditions. In addition, as these conditions are currently set to expire in 2023, we will not be able to rely on these protections beyond that date.

Definition of MVPD. In December 2014, the FCC issued a Notice of Proposed Rulemaking regarding the definition of an MVPD. Among other things, the FCC is considering whether the definition of an MVPD should apply to Internet-based streaming services, thus making such services subject to the same regulations as an MVPD. The FCC is also considering the appropriate treatment of purely Internet-based linear video programming services that cable operators and DBS providers offer in addition to their traditional video services. We cannot predict the timing or outcome of this rulemaking process.

FCC Regulation of Wireless Spectrum

DISH Network Spectrum

700 MHz Licenses . In 2008, we paid $712 million to acquire certain 700 MHz E Block ("700 MHz") wireless spectrum licenses, which were granted to us by the FCC in February 2009. At the time they were granted, these licenses were subject to certain interim and final build-out requirements. On October 29, 2013, the FCC issued an order approving a voluntary industry solution to resolve certain interoperability issues affecting the lower 700 MHz spectrum band (the "Interoperability Solution Order"), which requires us to reduce power emissions on our 700 MHz licenses. As part of the Interoperability Solution Order, the FCC, among other things, approved our request to modify the original interim and final build-out requirements associated with our 700 MHz licenses so that by March 2017, we must provide signal coverage and offer service to at least 40% of our total E Block population (the "Modified 700 MHz Interim Build-Out Requirement"). The FCC also approved our request to modify the 700 MHz Final Build-Out Requirement so that by March 2021, we must provide signal coverage and offer service to at least 70% of the population in each of our E Block license areas (the "Modified 700 MHz Final Build-Out Requirement"). While the modifications to our 700 MHz licenses provide us additional time to complete the build-out requirements, the reduction in power emissions could have an adverse impact on our ability to fully utilize our 700 MHz licenses. If the Modified 700 MHz Interim Build-Out Requirement is not met, the Modified 700 MHz Final Build-Out Requirement may be accelerated by one year, from March 2021 to March 2020, and we could face the reduction of license area(s). If the Modified 700 MHz Final Build-Out Requirement is not met, our authorization may terminate for the geographic portion of each license in which we are not providing service.

AWS-4 Licenses . On March 2, 2012, the FCC approved the transfer of 40 MHz of wireless spectrum licenses held by DBSD North America, Inc. ("DBSD North America") and TerreStar Networks, Inc. ("TerreStar") to us. On March 9, 2012, we completed the acquisition of 100% of the equity of reorganized DBSD North America (the "DBSD Transaction") and substantially all of the assets of TerreStar (the "TerreStar Transaction"), pursuant to which we acquired, among other things, certain satellite assets and wireless spectrum licenses held by DBSD North America and TerreStar. The total consideration to acquire the DBSD North America and TerreStar assets was approximately $2.860 billion.

On February 15, 2013, the FCC issued an order, which became effective on March 7, 2013, modifying our licenses to expand our terrestrial operating authority with AWS-4 authority ("AWS-4"). That order also mandated certain interim and final build-out requirements for the licenses. By March 2017, we must provide terrestrial signal coverage and offer terrestrial service to at least 40% of the aggregate population represented by all of the areas covered by the licenses (the "AWS-4 Interim Build-Out Requirement"). By March 2020, we were required to provide terrestrial signal coverage and offer terrestrial service to at least 70% of the population in each area covered by an individual license (the "AWS-4 Final Build-Out Requirement").

On December 20, 2013, the FCC issued a further order that, among other things, extended the AWS-4 Final Build-Out Requirement by one year to March 2021 (the "Modified AWS-4 Final Build-Out Requirement"). If the AWS-4 Interim Build-Out Requirement is not met, the Modified AWS-4 Final Build-Out Requirement may be accelerated by one year, from March 2021 to March 2020. If the Modified AWS-4 Final Build-Out Requirement is not met, our terrestrial authorization for each license area in which we do not meet the requirement may terminate. The FCC's December 20, 2013 order also conditionally waived certain FCC rules for our AWS-4 licenses to allow us to repurpose all 20 MHz of our uplink spectrum (2000-2020 MHz) for terrestrial downlink operations. On June 1, 2016, we notified the FCC that we had elected to use our AWS-4 uplink spectrum for terrestrial downlink operations, and effective June 7, 2016, the FCC modified our AWS-4 licenses, resulting in all 40 MHz of our AWS-4 spectrum being designated for terrestrial downlink operations.

H Block Licenses . On April 29, 2014, the FCC issued an order granting our application to acquire all 176 wireless spectrum licenses in the H Block auction. We paid approximately $1.672 billion to acquire these H Block licenses, including clearance costs associated with the lower H Block spectrum. The H Block licenses are subject to certain interim and final build-out requirements. By April 2018, we must provide reliable signal coverage and offer service to at least 40% of the population in each area covered by an individual H Block license (the "H Block Interim Build-Out Requirement"). By April 2024, we must provide reliable signal coverage and offer service to at least 75% of the population in each area covered by an individual H Block license (the "H Block Final Build-Out Requirement"). If the H Block Interim Build-Out Requirement is not met, the H Block license term and the H Block Final Build-Out Requirement may be accelerated by two years (from April 2024 to April 2022) for each H Block license area in which we do not meet the requirement. If the H Block Final Build-Out Requirement is not met, our authorization for each H Block license area in which we do not meet the requirement may terminate.

MVDDS Licenses . We have MVDDS licenses in 82 out of 214 geographical license areas, including Los Angeles, New York City, Chicago and several other major metropolitan areas. By August 2014, we were required to meet certain FCC build-out requirements related to our MVDDS licenses, and we are subject to certain FCC service rules applicable to these licenses. In January 2015, the FCC granted our application to extend the build-out requirements related to our MVDDS licenses. We now have until 2019 to provide "substantial service" on our MVDDS licenses, and the licenses expire in 2024. Our MVDDS licenses may be terminated, however, if we do not provide substantial service in accordance with the new build-out requirements.

In 2016, the MVDDS 5G Coalition, of which we are a member, filed a petition for rulemaking requesting the FCC to consider updating the rules to allow us to provide two-way 5G services using our MVDDS licenses. We cannot predict when or if the FCC will grant the petition and proceed with a rulemaking. If the FCC adopts rules that would allow us to provide two-way 5G services using our MVDDS licenses, the requests of OneWeb and others for authority to use the band for service from NGSO satellite systems may hinder our ability to provide 5G services using our MVDDS licenses.

DISH Network Non-Controlling Investments in the Northstar Entities and the SNR Entities Related to AWS-3 Wireless Spectrum Licenses

Through our wholly-owned subsidiaries American II and American III, we have made over $10.0 billion in certain non-controlling investments in Northstar Spectrum, the parent company of Northstar Wireless, and in SNR HoldCo, the parent company of SNR Wireless, respectively. On October 27, 2015, the FCC granted certain AWS-3 Licenses to Northstar Wireless and to SNR Wireless, respectively, which are recorded in "FCC authorizations" on our Consolidated Balance Sheets. The AWS-3 Licenses are subject to certain interim and final build-out requirements. By October 2021, Northstar Wireless and SNR Wireless must provide reliable signal coverage and offer service to at least 40% of the population in each area covered by an individual AWS-3 License (the "AWS-3 Interim Build-Out Requirement"). By October 2027, Northstar Wireless and SNR Wireless must provide reliable signal coverage and offer service to at least 75% of the population in each area covered by an individual AWS-3 License (the "AWS-3 Final Build-Out Requirement"). If the AWS-3 Interim Build-Out Requirement is not met, the AWS-3 License term and the AWS-3 Final Build-Out Requirement may be accelerated by two years (from October 2027 to October 2025) for each AWS-3 License area in which Northstar Wireless and SNR Wireless do not meet the requirement. If the AWS-3 Final Build-Out Requirement is not met, the authorization for each AWS-3 License area in which Northstar Wireless and SNR Wireless do not meet the requirement may terminate.

See " *Item 1A. Risk Factors — Acquisition and Capital Structure Risks — We face certain risks related to our non-controlling investments in the Northstar Entities and the SNR Entities, which may have a material adverse effect on our business, results of operations and financial condition"* in this Annual Report on Form 10-K for further information.

State and Local Regulation

We are also regulated by state and local authorities. While the FCC has preempted many state and local regulations that impair the installation and use of towers and consumer satellite dishes, our business nonetheless may be subject to state and local regulation, including, among others, zoning regulations that affect the ability to install consumer satellite antennas or build out wireless telecommunications networks.

International Regulation

We are subject to regulation by the International Telecommunication Union ("ITU") and our satellites must be registered in the United Nations ("UN") Registry of Space Objects. The orbital location and frequencies for certain of our satellites are subject to the frequency registration and coordination process of the ITU. The ITU Radio Regulations define the international rules, regulations, and rights for a satellite and associated earth stations to use specific radio frequencies at a specific orbital location. These rules, which include deadlines for the bringing of satellite networks into use, differ depending on the type of service to be provided and the frequencies to be used by the satellite. On our behalf, various countries have made and may in the future make additional filings for the frequency assignments at particular orbital locations that are used or to be used by our current satellite networks and potential future satellite networks we may build or acquire.

Our satellite services also must conform to the ITU service plans for Region 2 (which includes the United States). If any of our operations are not consistent with this plan, the ITU will only provide authorization on a non-interference basis pending successful modification of the plan or the agreement of all affected administrations to the non-conforming operations. Certain of our satellites are not presently entitled to any interference protection from other satellites that are in conformance with the plan. Accordingly, unless and until the ITU modifies its service plans to include the technical parameters of our non-conforming operations, our non-conforming satellites, along with those of other non-conforming satellite operators, must not cause harmful electrical interference with other assignments that are in conformance with the ITU service plans.

Registration in the UN Registry of Space Objects

The United States and other jurisdictions in which we license satellites are parties to the UN Convention on the Registration of Objects Launched into Outer Space. The UN Convention requires a satellite's launching state to register the satellite as a space object. The act of registration carries liability for the registering country in the event that the satellite causes third-party damage. Administrations may place certain requirements on satellite licensees in order to procure the necessary launch or operational authorizations that accompany registration of the satellite. In some jurisdictions, these authorizations are separate and distinct, with unique requirements, from the authorization to use a set of frequencies to provide satellite services. There is no guarantee that we will be able to procure such authorizations even if we already possess a frequency authorization.

Export Control Regulation

The delivery of satellites and related technical information for purposes of launch by foreign launch service providers is subject to export control and prior approval requirements. We are required to obtain import and export licenses from the United States government to receive and deliver certain components of direct-to-home satellite television systems. In addition, the delivery of satellites and the supply of certain related ground control equipment, technical services and data, and satellite communication/control services to destinations outside the United States are subject to export control and prior approval requirements from the United States government (including prohibitions on the sharing of certain satellite-related goods and services with China).

PATENTS AND OTHER INTELLECTUAL PROPERTY

Many entities, including some of our competitors, have or may in the future obtain patents and other intellectual property rights that cover or affect products or services that we offer or that we may offer in the future. In general, if a court determines that one or more of our products or services infringe intellectual property rights held by others, we may be required to cease developing or marketing those products or services, to obtain licenses from the holders of the intellectual property rights at a material cost, or to redesign those products or services in such a way as to avoid infringing any patent claims. If those intellectual property rights are held by a competitor, we may be unable to obtain the intellectual property rights at any price, which could adversely affect our competitive position.

We may not be aware of all intellectual property rights that our products or services may potentially infringe. In addition, patent applications in the United States are confidential until the Patent and Trademark Office either publishes the application or issues a patent (whichever arises first) and, accordingly, our products may infringe claims contained in pending patent applications of which we are not aware. Further, the process of determining definitively whether a claim of infringement is valid often involves expensive and protracted litigation, even if we are ultimately successful on the merits.

We cannot estimate the extent to which we may be required in the future to obtain intellectual property licenses or the availability and cost of any such licenses. Those costs, and their impact on our results of operations, could be material. Damages in patent infringement cases can be substantial, and in certain circumstances can be trebled. To the extent that we are required to pay unanticipated royalties to third parties, these increased costs of doing business could negatively affect our liquidity and operating results. We are currently defending multiple patent infringement actions. We cannot be certain the courts will conclude these companies do not own the rights they claim, that our products do not infringe on these rights and/or that these rights are not valid. Further, we cannot be certain that we would be able to obtain licenses from these persons on commercially reasonable terms or, if we were unable to obtain such licenses, that we would be able to redesign our products to avoid infringement.

ENVIRONMENTAL REGULATIONS

We are subject to the requirements of federal, state, local and foreign environmental and occupational safety and health laws and regulations. These include laws regulating air emissions, water discharge and waste management. We attempt to maintain compliance with all such requirements. We do not expect capital or other expenditures for environmental compliance to be material in 2017 or 2018. Environmental requirements are complex, change frequently and have become more stringent over time. Accordingly, we cannot provide assurance that these requirements will not change or become more stringent in the future in a manner that could have a material adverse effect on our business.

SEGMENT REPORTING DATA AND GEOGRAPHIC AREA DATA

For segment reporting data and principal geographic area data for 2016, 2015 and 2014, see Note 15 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K.

EMPLOYEES

We had approximately 16,000 employees at December 31, 2016, most of whom were located in the United States. We generally consider relations with our employees to be good. Approximately 60 employees in two of our field offices have voted to have a union represent them in contract negotiations. While we are not currently a party to any collective bargaining agreements, we are currently negotiating collective bargaining agreements at these offices.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Exchange Act and accordingly file our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy statements and other information with the SEC. The public may read and copy any materials filed with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. Please call the SEC at (800) SEC-0330 for further information on the operation of the Public Reference Room. As an electronic filer, our public filings are also maintained on the SEC's Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. The address of that website is http://www.sec.gov.

WEBSITE ACCESS

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act also may be accessed free of charge through our website as soon as reasonably practicable after we have electronically filed such material with, or furnished it to, the SEC. The address of that website is http://www.dish.com.

We have adopted a written code of ethics that applies to all of our directors, officers and employees, including our principal executive officer and senior financial officers, in accordance with Section 406 of the Sarbanes-Oxley Act of 2002 and the rules of the SEC promulgated thereunder. Our code of ethics is available on our corporate website at http://www.dish.com. In the event that we make changes in, or provide waivers of, the provisions of this code of ethics that the SEC requires us to disclose, we intend to disclose these events on our website.

EXECUTIVE OFFICERS OF THE REGISTRANT
(furnished in accordance with Item 401(b) of Regulation S-K, pursuant to General Instruction G(3) of Form 10-K)

The following table and information below sets forth the name, age and position with DISH Network of each of our executive officers, the period during which each executive officer has served as such, and each executive officer's business experience during the past five years:

Name	Age	Position
Charles W. Ergen	63	Chairman, Chief Executive Officer and Director
W. Erik Carlson	47	President and Chief Operating Officer
Thomas A. Cullen	57	Executive Vice President, Corporate Development
James DeFranco	64	Executive Vice President and Director
R. Stanton Dodge	49	Executive Vice President, General Counsel and Secretary
Bernard L. Han	52	Executive Vice President, Strategic Planning
Vivek Khemka	44	Executive Vice President and Chief Technology Officer
Roger J. Lynch	54	Chief Executive Officer, Sling TV Holding L.L.C.
Michael K. McClaskey	53	Executive Vice President and Chief Human Resources Officer
Brian V. Neylon	51	Executive Vice President, Customer Acquisition and Retention
Paul W. Orban	48	Senior Vice President and Chief Accounting Officer
Warren W. Schlichting	55	Executive Vice President, Marketing, Programming, and Media Sales
Steven E. Swain	49	Senior Vice President and Chief Financial Officer
John W. Swieringa	39	Executive Vice President, Operations

Charles W. Ergen. Mr. Ergen is our executive Chairman and Chief Executive Officer and has been Chairman of the Board of Directors of DISH Network since its formation and, during the past five years, has held executive officer and director positions with DISH Network and its subsidiaries. Mr. Ergen also serves as executive Chairman and Chairman of the Board of Directors of EchoStar. Mr. Ergen co-founded DISH Network with his future spouse, Cantey Ergen, and James DeFranco, in 1980.

W. Erik Carlson. Mr. Carlson has served as President and Chief Operating Officer since December 2015 and is responsible for the day-to-day operations of DISH Network including Customer Acquisition and Retention, Operations, Finance and Accounting, Human Resources, Marketing, Media Sales, Information Technologies, Programming, and Product Management. Mr. Carlson previously served as our Executive Vice President, In-Home Service and Manufacturing Operations from February 2008 to December 2015. Mr. Carlson also served as Senior Vice President of Retail Services, a position he held since mid-2006. He joined DISH Network in 1995 and has held operating roles of increasing responsibility over the years.

Thomas A. Cullen. Mr. Cullen has served as Executive Vice President, Corporate Development for DISH Network since July 2011. Mr. Cullen previously served as our Executive Vice President, Sales, Marketing and Programming from April 2009 to July 2011 and as our Executive Vice President, Corporate Development from December 2006 to April 2009. Before joining DISH Network, Mr. Cullen held various executive positions in the telecommunications, cable and wireless industries.

James DeFranco. Mr. DeFranco is one of our Executive Vice Presidents and has been one of our vice presidents and a member of the Board of Directors of DISH Network since our formation. During the past five years he has held various executive officer and director positions with our subsidiaries. Mr. DeFranco co-founded DISH Network with Charles W. Ergen and Cantey Ergen, in 1980.

R. Stanton Dodge. Mr. Dodge has served as Executive Vice President, General Counsel and Secretary since June 2007 and is responsible for all legal, government affairs and corporate communications for DISH Network and its subsidiaries. Mr. Dodge has served on the Board of Directors of EchoStar since March 2009. Mr. Dodge also served as EchoStar's Executive Vice President, General Counsel and Secretary from October 2007 to November 2011 pursuant to a management services agreement between DISH Network and EchoStar. Since joining DISH Network in November 1996, he has held various positions of increasing responsibility in DISH Network's legal department.

Bernard L. Han. Mr. Han has served as Executive Vice President, Strategic Planning for DISH Network since December 2015. Mr. Han previously served as our Executive Vice President and Chief Operating Officer from April 2009 to December 2015. Mr. Han also served as Executive Vice President and Chief Financial Officer of DISH Network from September 2006 to April 2009. Mr. Han also served as EchoStar's Executive Vice President and Chief Financial Officer from January 2008 to June 2010 pursuant to a management services agreement between DISH Network and EchoStar. Before joining DISH Network, Mr. Han served as Executive Vice President and Chief Financial Officer of Northwest Airlines, Inc.

Vivek Khemka. Mr. Khemka has served as Executive Vice President and Chief Technology Officer since December 2015 and is responsible for all development and execution of technology strategy for DISH Network. Since August 2016, Mr. Khemka also serves as the President of EchoStar Technologies L.L.C. pursuant to a professional services agreement between DISH Network and EchoStar. Mr. Khemka previously served as Senior Vice President of Product Management from March 2013 to December 2015. Mr. Khemka also served as Vice President of Customer Technology, a position he held from December 2011 to March 2013. He joined DISH Network in 2009 and has held various roles of increasing responsibility over the years. Before joining DISH Network, Mr. Khemka held various positions at Danaher, Motorola and McKinsey & Co.

Roger J. Lynch. Mr. Lynch has served as Executive Vice President, Advanced Technologies for DISH Network since November 2009. Mr. Lynch also served as EchoStar's Executive Vice President, Advanced Technologies from November 2009 to December 2014. In addition, Mr. Lynch has served as Chief Executive Officer of Sling TV Holding L.L.C. since July 2012. Prior to joining DISH Network, Mr. Lynch served as Chairman and CEO of Video Networks International, Ltd., an Internet protocol television ("IPTV") technology company in the United Kingdom.

Michael K. McClaskey. Mr. McClaskey has served as Executive Vice President and Chief Human Resources Officer since February 2014 and is responsible for the recruiting, benefits administration, compensation, and leadership and organizational development for DISH Network. Mr. McClaskey joined DISH Network in 2007 and previously served as our Senior Vice President and Chief Information Officer until February 2014. Prior to DISH Network, Mr. McClaskey spent 12 years at Perot Systems where he served as Vice President of Infrastructure Solutions and Chief Information Officer.

Brian V. Neylon. Mr. Neylon has served as Executive Vice President, Customer Acquisition and Retention since December 2015 and is responsible for all acquisition and sales operations functions for DISH Network. Mr. Neylon previously served as our Senior Vice President of Sales from June 2011 to December 2015. Since first joining DISH Network in September 1991, he has held various positions of increasing responsibility within various sales and distribution teams from time to time.

Paul W. Orban. Mr. Orban has served as Senior Vice President and Chief Accounting Officer since December 2015 and is responsible for all aspects of our accounting department including external financial reporting, technical accounting policy, income tax accounting and internal controls for DISH Network. Mr. Orban served as our Senior Vice President and Corporate Controller from September 2006 to December 2015 and as our Vice President and Corporate Controller from September 2003 to September 2006. He also served as EchoStar's Senior Vice President and Corporate Controller from 2008 to 2012 pursuant to a management services agreement between DISH Network and EchoStar. Since joining DISH Network in 1996, Mr. Orban has held various positions of increasing responsibility in our accounting department. Prior to DISH Network, Mr. Orban was an auditor with Arthur Andersen LLP.

Warren W. Schlichting. Mr. Schlichting has served as Executive Vice President, Marketing, Programming, and Media Sales for DISH Network since December 2015 and is responsible for the acquisition and renewal of all programming content, marketing for our DISH branded pay-TV business and the advertising sales division. Mr. Schlichting previously served as our Senior Vice President of Programming and Media Sales from October 2014 to December 2015. Mr. Schlichting joined DISH Network in September 2011 as Senior Vice President of Media Sales. Prior to DISH Network, Mr. Schlichting served as Senior Vice President of New Business Development for Comcast from August 2002 to September 2011, leading advanced advertising efforts on multiple media and ad delivery platforms including broadband, interactive television and video-on-demand.

Steven E. Swain. Mr. Swain has served as Senior Vice President and Chief Financial Officer of DISH Network since October 2014. Mr. Swain served as our Senior Vice President of Programming from April 2014 to October 2014, overseeing the acquisition and renewal of all programming content for DISH Network. Mr. Swain joined DISH Network in 2011 as Vice President of Corporate Financial Planning and Analysis. Prior to DISH Network, Mr. Swain spent more than 15 years working in the telecommunications sector, most recently at CenturyLink, formerly Qwest Communications, where he served in multiple leadership roles in finance, including corporate financial planning and analysis, treasury and investor relations, as well as in-network engineering.

John W. Swieringa. Mr. Swieringa has served as Executive Vice President, Operations since December 2015 and is responsible for the in-home services operations, customer service and billing, and information technology for DISH Network. Mr. Swieringa previously served as Senior Vice President and Chief Information Officer from March 2014 to December 2015 and as Vice President of Information Technology Customer Applications from March 2010 to March 2014. Mr. Swieringa joined DISH Network in December 2007 serving in our finance department. Before joining DISH Network, Mr. Swieringa held corporate finance positions in various Fortune 500 companies.

There are no arrangements or understandings between any executive officer and any other person pursuant to which any executive officer was selected as such. Pursuant to the Bylaws of DISH Network, executive officers serve at the discretion of the Board of Directors.

Item 1A. RISK FACTOR S

The risks and uncertainties described below are not the only ones facing us. If any of the following events occur, our business, financial condition or results of operations could be materially and adversely affected.

Competition and Economic Risks

As the pay-TV industry has matured and bundled offers combining video, broadband and/or wireless services have become more prevalent and competitive, we face intense and increasing competition from providers of video, broadband and/or wireless services, which may require us to further increase subscriber acquisition and retention spending or accept lower subscriber activations and higher subscriber churn.

Our business has historically focused on providing pay-TV services and we have traditionally competed against satellite television providers and cable companies, some of whom have greater financial, marketing and other resources than we do. In recent years, industries have been converging as providers of video, broadband and wireless services compete to deliver the next generation of service offerings. The pay-TV industry has matured and bundled offers combining video, broadband and/or wireless services have become more prevalent and competitive. In some cases, certain competitors have been able to potentially subsidize the price of video services with the price of broadband and/or wireless services. These developments, among others, have contributed to intense and increasing competition, which we expect to continue.

With respect to our DISH branded pay-TV services, we and our competitors increasingly must seek to attract a greater proportion of new subscribers from each other's existing subscriber bases rather than from first-time purchasers of pay-TV services. In addition, because other pay-TV providers may be seeking to attract a greater proportion of their new subscribers from our existing subscriber base, we may be required to increase retention spending or we may provide greater discounts or credits to acquire and retain subscribers who may spend less on our services. If our Pay-TV ARPU decreases or does not increase commensurate with increases in programming or other costs, our margins may be reduced and the long-term value of a subscriber would then decrease. In addition, our Sling branded pay-TV subscribers on average purchase lower priced programming services than DISH branded pay-TV subscribers. Accordingly, an increase in Sling branded pay-TV subscribers has a negative impact on our Pay-TV ARPU.

This increasingly competitive environment may require us to increase subscriber acquisition and retention spending or accept lower subscriber activations and higher subscriber churn. Further, as a result of this increased competitive environment and the maturation of the pay-TV industry, future growth opportunities of our DISH branded pay-TV business may be limited and our margins may be reduced, which could have a material adverse effect on our business, results of operations, financial condition and cash flow. Our gross new Pay-TV subscriber activations continue to be negatively impacted by stricter customer acquisition policies for our DISH branded pay-TV subscribers (including a focus on attaining higher quality subscribers) and increased competitive pressures, including aggressive marketing, more aggressive retention efforts, bundled discount offers combining broadband, video and/or wireless services and other discounted promotional offers.

In addition, MVPDs and other companies such as programmers are offering smaller packages of programming channels directly to customers, at prices lower than our video service package offerings. These offerings could adversely affect demand for our Pay-TV services or cause us to modify our programming packages, which may reduce our margins. During the third quarter 2016, we launched our Flex Pack skinny bundle, a smaller package of programming channels.

Moreover, mergers and acquisitions, joint ventures and alliances among cable television providers, telecommunications companies and others may result in, among other things, greater scale and financial leverage and increase the availability of offerings from providers capable of bundling video, broadband and/or wireless services in competition with our services, and may exacerbate the risks described above. For example, in May 2016, Charter completed its acquisition of Time Warner Cable and Bright House Networks (collectively "New Charter"), which created the second largest cable television provider and third largest MPVD in the U.S. This transaction created a duopoly, resulting in two broadband providers, New Charter and Comcast, controlling the vast majority of the high-speed broadband homes in the country. In addition, a significant proportion of New Charter's high-speed broadband subscribers may lack access to alternative high-speed broadband options. Further, New Charter may be able to, among other things, foreclose or degrade our online video offerings at various points in the broadband pipe; impose data caps on consumers who access our online video offerings; and pressure third-party content owners and programmers to withhold online rights from us and raise our and other MVPDs' third-party programming costs.

As a result of AT&T's 2015 acquisition of DirecTV, our direct competitor and the largest satellite TV provider in the U.S. now has increased access to capital, access to AT&T's nationwide platform for wireless mobile video, and the ability to more seamlessly bundle its video services with AT&T's broadband Internet access and wireless services. AT&T also recently launched an OTT service, DirecTV Now, that distributes video directly to consumers over the Internet. The combined company may also be able to, among other things, utilize its increased leverage over third-party content owners and programmers to withhold online rights from us and reduce the price it pays for programming at the expense of other MVPDs, including us; thwart our entry into the wireless market, by, among other things, refusing to enter into data roaming agreements with us; underutilize key orbital spectrum resources that could be more efficiently used by us; foreclose or degrade our online video offerings at various points in the broadband pipe; and impose data caps on consumers who access our online video offerings.

In addition, in October 2016, AT&T announced its pending acquisition of Time Warner Inc. ("Time Warner"). If the proposed transaction ultimately is completed, the risks discussed above posed by the AT&T and DirecTV merger will be further exacerbated, as the addition of Time Warner's media holdings, which include content, such as HBO, TBS, TNT, CNN, and movies, would, among other things, provide the combined company increased scale and leverage in the converging video, mobile, and broadband industries and may make it more difficult for us to obtain access to Time Warner's programming networks on nondiscriminatory and fair terms, or at all. Furthermore, AT&T's current practice of offering wireless subscribers access to owned video content over the Internet without counting against a subscriber's monthly data caps ("zero rating"), may give an unfair advantage to AT&T's own video content, which currently includes, among others, DirecTV services, including DirecTV Now, on mobile devices.

As the pay-TV industry is mature, our strategy has included an increased emphasis on acquiring and retaining higher quality subscribers, even if it means that we will acquire and retain fewer overall subscribers. We evaluate the quality of subscribers based upon a number of factors, including, among others, profitability. Our Pay-TV subscriber base has been declining due to, among other things, this strategy and the factors described above. There can be no assurance that our Pay-TV subscriber base will not continue to decline. In the event that our Pay-TV subscriber base continues to decline, it could have a material adverse long-term effect on our business, results of operations, financial condition and cash flow.

Changing consumer behavior and competition from digital media companies that provide or facilitate the delivery of video content via the Internet may reduce our gross new subscriber activations and may cause our subscribers to purchase fewer services from us or to cancel our services altogether, resulting in less revenue to us.

Our business has historically focused on providing pay-TV services, including our DISH branded and Sling branded pay-TV services. We face competition from providers of digital media, including, among others, Netflix, Hulu, Apple, Amazon, Google, Verizon, DirecTV and Sony that offer online services distributing movies, television shows and other video programming as well as programmers, such as CBS and HBO, that began selling content directly to consumers over the Internet in 2015. Some of these companies have larger customer bases, stronger brand recognition and greater financial, marketing and other resources than we do. In addition, traditional providers of video entertainment, including broadcasters, cable channels and MVPDs, are increasing their Internet-based video offerings. Some of these services charge nominal or no fees for access to their content, which could adversely affect demand for our Pay-TV services. Moreover, new technologies have been, and will likely continue to be, developed that further increase the number of competitors we face with respect to video services, including competition from piracy-based video offerings.

These products and services are also driving rapid changes in consumer behavior as consumers seek more control over when, where and how they consume content and access communications services. In particular, through technological advancements and with the large increase in the number of consumers with broadband service, a significant amount of video content has become available through online content providers for users to stream and view on their personal computers, televisions, phones, tablets, videogame consoles, and other devices, some without charging a fee to access the content. Similarly, while our customers can use their traditional video subscription to access mobile programming, an increasing number of customers are also using mobile devices as the sole means of viewing video, and an increasing number of non-traditional video providers are developing content and technologies to satisfy that demand. These technological advancements, changes in consumer behavior, and the increasing number of choices available to consumers with regard to the means by which consumers obtain video content may cause DISH Network subscribers to disconnect our services (“cord cutting”), downgrade to smaller, less expensive programming packages (“cord shaving”) or elect to purchase through online content providers a certain portion of the services that they would have historically purchased from us, such as pay per view movies, resulting in less revenue to us. There can be no assurance that our Pay-TV services will be able to compete with these other providers of digital media. Therefore, these technological advancements and changes in consumer behavior could reduce our gross new subscriber activations and could have a material adverse effect on our business, results of operations and financial condition or otherwise disrupt our business.

Our failure to effectively anticipate or adapt to competition or changes in consumer behavior, including with respect to younger consumers, could have a material adverse effect on our business, results of operations and financial condition or otherwise disrupt our business.

Economic weakness and uncertainty may adversely affect our ability to grow or maintain our business.

A substantial majority of our revenue comes from residential customers whose spending patterns may be affected by economic weakness and uncertainty. Our ability to grow or maintain our business may be adversely affected by economic weakness and uncertainty and other factors that may adversely affect the pay-TV industry. In particular, economic weakness and uncertainty could result in the following:

- ***Fewer gross new subscriber activations and increased subscriber churn*** . We could face fewer gross new subscriber activations and increased subscriber churn due to, among other things: (i) certain economic factors that impact consumers, including, among others, rising interest rates, a potential downturn in the housing market in the United States (including a decline in housing starts) and higher unemployment, which could lead to a lack of consumer confidence and lower discretionary spending; (ii) increased price competition for our products and services; and (iii) the potential loss of independent third-party retailers, who generate a significant percentage of our new subscribers, because many of them are small businesses that are more susceptible to the negative effects of economic weakness. In particular, subscriber churn may increase with respect to subscribers who purchase our lower tier programming packages and who may be more sensitive to economic weakness, including, among others, our pay-in-advance subscribers.

- ***Lower pay-TV average monthly revenue per subscriber ("Pay-TV ARPU")*** . Our subscribers may disconnect our services and a growing share of pay-TV customers are "cord shaving" to downgrade to smaller, less expensive programming packages or electing to purchase through online content providers a certain portion of the services that they would have historically purchased from us, such as pay per view movies. Cord cutting and/or cord shaving by our subscribers could negatively impact our Pay-TV ARPU. In addition, Sling branded pay-TV subscribers on average purchase lower priced programming services than DISH branded pay-TV subscribers, and therefore, as Sling branded pay-TV subscribers increase, it will have a negative impact on Pay-TV ARPU.

- ***Higher subscriber acquisition and retention costs*** . Our profits may be adversely affected by increased subscriber acquisition and retention costs necessary to attract and retain subscribers during a period of economic weakness.

Our competitors may be able to leverage their relationships with programmers to reduce their programming costs and offer exclusive content that will place them at a competitive advantage to us.

The cost of programming represents the largest percentage of our overall costs. Certain of our competitors own directly or are affiliated with companies that own programming content that may enable them to obtain lower programming costs or offer exclusive programming that may be attractive to prospective subscribers. Unlike our larger cable and satellite competitors, some of which also provide IPTV services, we have not made significant investments in programming providers. For example, in January 2011, the FCC and the Department of Justice approved a transaction between Comcast and General Electric pursuant to which they joined their programming properties, including NBC, Bravo and many others that are available in the majority of our programming packages, in a venture, NBCUniversal, controlled by Comcast. In March 2013, Comcast completed the acquisition of substantially all of General Electric's remaining interest in NBCUniversal. This transaction may affect us adversely by, among other things, making it more difficult for us to obtain access to NBCUniversal's programming networks on nondiscriminatory and fair terms, or at all. The FCC conditioned its approval on, among other things, Comcast complying with the terms of the FCC's order on network neutrality, even if that order is vacated by judicial or legislative action, and Comcast licensing its affiliated content to us, other traditional pay-TV providers and certain providers of video services over the Internet on fair and nondiscriminatory terms and conditions, including, among others, price. If Comcast does not license its affiliated content to us on fair and nondiscriminatory terms and conditions, we can seek binding arbitration and continue to carry such content while the arbitration is pending. However, it is uncertain how these conditions may be interpreted and enforced by the FCC; therefore, we cannot predict the practical effect of these conditions. Also, in October 2016, AT&T announced its pending acquisition of Time Warner. This transaction would join DirecTV, which was acquired by AT&T in 2015, with Time Warner's media holdings, which include content such as HBO, TBS, TNT, CNN, and movies. If approved, this transaction may affect us adversely by, among other things, making it more difficult for us to obtain access to Time Warner programming networks on nondiscriminatory and fair terms, or at all.

Our OTT Sling TV Internet-based services face certain risks, including, among others, significant competition.

Our Sling TV services face a number of risks, including, among others, the following, which may have a material adverse effect on our Sling TV service offerings:

- We face significant competition from programmers such as DirecTV Now and Sony Vue, which distribute live linear television programming over the Internet, from content providers such as CBS and HBO, which have begun selling content directly to consumers over the Internet, and other companies including, among others, Netflix, Hulu, Apple, Amazon, Google and Verizon, some of which have original content, larger customer bases, stronger brand recognition, and significant financial, marketing and other resources. We also face competition from piracy based video offerings;

- We offer a limited amount of programming content, and there can be no assurances that we will be able to maintain or increase the amount or type of programming content that we may offer to keep pace with, or to differentiate our Sling TV services from, other providers of online video content;

- We rely on streaming-capable devices to deliver our Sling TV services, and if we are not successful in maintaining existing, and creating new, relationships, or if we encounter technological, content licensing or other impediments to our streaming content, our ability to grow our Sling TV services could be adversely impacted;

- We may incur significant expenses to market our Sling TV services and build brand awareness, which could have a negative impact on the profitability of our Sling TV services;

- Since we rely upon the ability of consumers to access our Sling TV services through an Internet connection, changes in how network operators handle and charge for access to data that travel across their networks, such as implementing bandwidth caps or usage-based fees, could adversely impact our Sling TV services. In addition, many network operators that provide consumers with broadband service also provide these consumers with video programming, and these network operators may have an incentive to use their network infrastructure in a manner adverse to our continued growth and success. For example, as a result of AT&T's acquisition of DirecTV and the completion of the New Charter merger, these risks may be exacerbated to the extent these and other network operators are able to provide preferential treatment to their data. For example, AT&T's current zero rating practice may give an unfair advantage to AT&T's own video services, which currently include, among others, DirecTV services, including DirecTV Now;

- We may not be able to timely scale our technology, systems and operational practices related to our Sling TV services to effectively and reliably handle growth in subscribers and features related to our services;

- Our Sling Orange service has limitations that may not be applicable to our competitors, such as not being able to view content on more than one device simultaneously, and with respect to certain programming, not being able to provide a feature to record content for future viewing. If we are unable to remove those limitations and add such features to the Sling Orange service in the future, our ability to compete with other offerings could be adversely impacted;

- The adoption or modification of laws and regulations relating to the Internet could limit or otherwise adversely affect the manner in which we conduct our Sling TV services and could cause us to incur additional expenses or alter our business model; and

- We rely on EchoStar to provide the streaming delivery technology and infrastructure to support our Sling TV services. In addition, we license our OTT service brand name "Sling" from EchoStar, and there can be no assurance that we will be able to continue to license the "Sling" brand name on acceptable terms or at all.

We face increasing competition from other distributors of unique programming services such as foreign language, sports programming, and original content that may limit our ability to maintain subscribers that desire these unique programming services.

We face increasing competition from other distributors of unique programming services such as foreign language, sports programming, and original content including programming distributed over the Internet. There can be no assurance that we will maintain subscribers that desire these unique programming services. For example, the increasing availability of foreign language programming from our competitors, which in certain cases has resulted from our inability to renew programming agreements on an exclusive basis or at all, as well as competition from piracy-based video offerings, could contribute to an increase in our subscriber churn. Our agreements with distributors of foreign language programming have varying expiration dates, and some agreements are on a month-to-month basis. There can be no assurance that we will be able to grow or maintain subscribers that desire these unique programming services such as foreign language and sports programming.

Operational and Service Delivery Risks

If we do not continue improving our operational performance and customer satisfaction, our gross new subscriber activations may decrease and our subscriber churn may increase.

If we are unable to continue improving our operational performance and customer satisfaction, we may experience a decrease in gross new subscriber activations and an increase in subscriber churn, which could have a material adverse effect on our business, financial condition and results of operations. To improve our operational performance, we continue to make investments in staffing, training, information systems, and other initiatives, primarily in our call center and in-home service operations. These investments are intended to help combat inefficiencies introduced by the increasing complexity of our business, improve customer satisfaction, reduce subscriber churn, increase productivity, and allow us to scale better over the long run. We cannot, however, be certain that our spending will ultimately be successful in improving our operational performance, and if unsuccessful, we may have to incur higher costs to improve our operational performance. While we believe that such costs will be outweighed by longer-term benefits, there can be no assurance when or if we will realize these benefits at all. If we are unable to improve our operational performance, our future gross new subscriber activations and existing subscriber churn may be negatively impacted, which could in turn adversely affect our revenue growth and results of operations.

If our gross new subscriber activations continue to decrease, or if our subscriber churn, subscriber acquisition costs or retention costs increase, our financial performance will be adversely affected.

We may incur increased costs to acquire new subscribers and retain existing subscribers. Our gross new Pay-TV subscriber activations, net Pay-TV subscriber additions, and Pay-TV churn rate continue to be negatively impacted by stricter customer acquisition and retention policies for our DISH branded pay-TV subscribers, including an increased emphasis on acquiring and retaining higher quality subscribers. In addition, our subscriber acquisition costs could increase as a result of increased spending for advertising and, with respect to our DISH branded pay-TV services, the installation of more HD and DVR receivers, which are generally more expensive than other receivers. Retention costs with respect to our DISH branded pay-TV services may be driven higher by increased upgrades of existing subscribers' equipment to HD and DVR receivers. Meanwhile, as part of our increased emphasis on retaining higher quality subscribers, we have been more selective in issuing retention credits, which has had a negative impact on our Pay-TV churn rate. Although we expect to continue to incur expenses, such as providing retention credits and other subscriber acquisition and retention expenses, to attract and retain subscribers, there can be no assurance that our efforts will generate new subscribers or result in a lower churn rate. Additionally, certain of our promotions, including, among others, pay-in-advance, continue to allow consumers with relatively lower credit scores to become subscribers. These subscribers typically churn at a higher rate.

Our subscriber acquisition costs and our subscriber retention costs can vary significantly from period to period and can cause material variability to our net income (loss) and free cash flow. Any material increase in subscriber acquisition or retention costs from current levels could have a material adverse effect on our business, financial condition and results of operations.

Programming expenses are increasing and could adversely affect our future financial condition and results of operations.

Our programming costs currently represent the largest component of our total expense and we expect these costs to continue to increase. The pay-TV industry has continued to experience an increase in the cost of programming, especially local broadcast channels and sports programming. In addition, certain programming costs are rising at a much faster rate than wages or inflation. These factors may be exacerbated by the increasing trend of consolidation in the media industry, which may further increase our programming expenses. Our ability to compete successfully will depend, among other things, on our ability to continue to obtain desirable programming and deliver it to our subscribers at competitive prices.

When offering new programming, or upon expiration of existing contracts, programming suppliers have historically attempted to increase the rates that they charge us for programming. We expect this practice to continue, which, if successful, would increase our programming costs. In addition, our programming expenses may also increase as we add programming to our video services or distribute existing programming to our customers through additional delivery services, such as Sling TV. As a result, our margins may face further pressure if we are unable to renew our long-term programming contracts on acceptable pricing and other economic terms. Alternatively, to attempt to mitigate the effect of price increases or for other reasons, we may elect not to carry or may be unable to carry certain channels, which could adversely affect our subscriber growth or result in higher churn.

In addition, increases in programming costs generally cause us to increase the rates that we charge our subscribers, which could in turn cause our existing Pay-TV subscribers to disconnect our service or cause potential new Pay-TV subscribers to choose not to subscribe to our service. Therefore, we may be unable to pass increased programming costs on to our customers, which could have a material adverse effect on our business, financial condition and results of operations.

We depend on others to provide the programming that we offer to our subscribers and, if we fail to obtain or lose access to this programming, our gross new subscriber activations may decline and our subscriber churn may increase.

We depend on third parties to provide us with programming services. Our programming agreements have remaining terms ranging from less than one to up to several years and contain various renewal, expiration and/or termination provisions. We may not be able to renew these agreements on acceptable terms or at all, and these agreements may be terminated prior to expiration of their original term. In recent years, negotiations over programming carriage contracts generally remain contentious, and certain programmers have, in the past, limited our access to their programming in connection with those negotiations and the scheduled expiration of their programming carriage contracts with us. As national and local programming interruptions and threatened programming interruptions have become more frequent in recent years, including, among others, the removal by Tribune Broadcasting Company ("Tribune") of certain local broadcast channels from our programming lineup during the second and third quarters of 2016 , in certain cases such interruptions have had a negative impact on our gross new Pay-TV subscriber activations, net Pay-TV subscriber additions and Pay-TV churn rate. We cannot predict with any certainty the impact to our gross new Pay-TV subscriber activations, net Pay-TV subscriber additions and Pay-TV churn rate resulting from similar programming interruptions or threatened programming interruptions that may occur in the future. As a result, we may at times suffer from periods of lower gross new Pay-TV subscriber activations, lower net Pay-TV subscriber additions or higher net Pay-TV subscriber losses, and higher Pay-TV churn rates.

We typically have a few programming contracts with major content providers up for renewal each year and if we are unable to renew any of these agreements or the other parties terminate the agreements, there can be no assurance that we would be able to obtain substitute programming, or that such substitute programming would be comparable in quality or cost to our existing programming. In addition, failure to obtain access to certain programming or loss of access to programming, particularly programming provided by major content providers and/or programming popular with our subscribers, could have a material adverse effect on our business, financial condition and results of operations, including, among other things, our gross new Pay-TV subscriber activations, net Pay-TV subscriber additions and Pay-TV churn rate.

We may not be able to obtain necessary retransmission consent agreements at acceptable rates, or at all, from local network stations.

The Copyright Act generally gives satellite companies a statutory copyright license to retransmit local broadcast channels by satellite back into the market from which they originated, subject to obtaining the retransmission consent of local network stations that do not elect "must carry" status, as required by the Communications Act. If we fail to reach retransmission consent agreements with such broadcasters, we cannot carry their signals. This could have an adverse effect on our strategy to compete with cable and other satellite companies that provide local signals. While we have been able to reach retransmission consent agreements with most of these local network stations, from time to time there are stations with which we have not been able to reach an agreement. We cannot be sure that we will secure these agreements or that we will secure new agreements on acceptable terms, or at all, upon the expiration of our current retransmission consent agreements, some of which are short-term. In recent years, national broadcasters have used their ownership of certain local broadcast stations to require us to carry additional cable programming in exchange for retransmission consent of their local broadcast stations. These requirements may place constraints on available capacity on our satellites for other programming. Furthermore, the rates we are charged for retransmitting local channels have been increasing substantially and may exceed our ability to increase our prices to our customers, which could have a material adverse effect on our business, financial condition and results of operations.

We may be required to make substantial additional investments to maintain competitive programming offerings.

We believe that the availability and extent of HD programming and other value-added services such as access to video via mobile devices continue to be significant factors in consumers' choice among pay-TV providers. Other pay-TV providers may have more successfully marketed and promoted their HD programming packages and value-added services and may also be better equipped and have greater resources to increase their HD offerings and value-added services to respond to increasing consumer demand. In addition, even though it remains a small portion of the market, consumer demand for 4K HD televisions and programming will likely increase in the future. We may be required to make substantial additional investments in infrastructure to respond to competitive pressure to deliver enhanced programming, and other value-added services, and there can be no assurance that we will be able to compete effectively with offerings from other pay-TV providers.

Any failure or inadequacy of our information technology infrastructure and communications systems, including without limitation those caused by cyber-attacks or other malicious activities, could disrupt or harm our business.

The capacity, reliability and security of our information technology hardware and software infrastructure (including our billing systems) and communications systems are important to the operation of our current business, which would suffer in the event of system failures or cyber-attacks. Likewise, our ability to expand and update our information technology infrastructure in response to our growth and changing needs is important to the continued implementation of our new service offering initiatives. Our inability to expand or upgrade our technology infrastructure could have adverse consequences, which could include, among other things, the delayed implementation of new service offerings, service or billing interruptions, and the diversion of development resources. We rely on third parties for developing key components of our information technology and communications systems and ongoing service. Some of our key systems and operations, including those supplied by third-party providers, are not fully redundant, and our disaster recovery planning cannot account for all eventualities. Interruption and/or failure of any of these systems could disrupt our operations, interrupt our services and damage our reputation, thus adversely impacting our ability to provide our services, retain our current subscribers and attract new subscribers.

In addition, although we take protective measures and endeavor to modify them as circumstances warrant, our information technology hardware and software infrastructure and communications systems may be vulnerable to a variety of interruptions, including without limitation, natural disasters, terrorist attacks, telecommunications failures, cyber-attacks and other malicious activities such as unauthorized access, misuse, computer viruses or other malicious code, computer denial of service attacks and other events that could disrupt or harm our business. In addition, third-party providers of some of our key systems may also experience interruptions to their information technology hardware and software infrastructure and communications systems that could adversely impact us and over which we may have limited or no control. We may obtain certain confidential, proprietary and personal information about our customers, personnel and vendors, and may provide this information to third parties in connection with our business. If one or more of such interruptions or failures occur to us or our third-party providers, it potentially could jeopardize such information and other information processed and stored in, and transmitted through, our or our third-party providers' information technology hardware and software infrastructure and communications systems, or otherwise cause interruptions or malfunctions in our operations, which could result in lawsuits, government claims, investigations or proceedings, significant losses or reputational damage. Due to the fast-moving pace of technology, it may be difficult to detect, contain and remediate every such event. We may be required to expend significant additional resources to modify our protective measures or to investigate and remediate vulnerabilities or other exposures, and we may be subject to financial losses. Furthermore, the amount and scope of insurance we maintain may not cover expenses related to such activities or events.

As a result of the increasing awareness concerning the importance of safeguarding personal information, the potential misuse of such information and legislation that has been adopted or is being considered regarding the protection, privacy and security of personal information, the potential liability associated with information-related risks is increasing, particularly for businesses like ours that handle personal customer data. The occurrence of any such network or information system related events or security breaches could have a material adverse effect on our reputation, business, financial condition and results of operations. Significant incidents could result in a disruption of our operations, customer dissatisfaction, damage to our reputation or a loss of customers and revenues.

We currently depend on EchoStar to design, develop and manufacture substantially all of our new DISH branded pay-TV set-top boxes and certain related components, to provide the vast majority of our satellite transponder capacity, to provide digital broadcast operations and other services to us, and to provide streaming delivery technology and infrastructure for our Sling TV services. Our business would be adversely affected if EchoStar ceases to provide these products and services to us and we are unable to obtain suitable replacement products and services from third parties.

EchoStar is our primary supplier of our DISH branded pay-TV digital set-top boxes and digital broadcast operations. In addition, EchoStar provides the vast majority of our satellite transponder capacity, is a key supplier of related services to us, and provides streaming delivery technology and infrastructure for our Sling TV services. We purchase digital set-top boxes from EchoStar pursuant to a contract that expires on December 31, 2017. EchoStar provides digital broadcast operations to us pursuant to a contract that expires on December 31, 2017. EchoStar has no obligation to supply digital set-top boxes or digital broadcast operations to us after these dates. We may be unable to renew agreements for digital set-top boxes or digital broadcast operations with EchoStar on acceptable terms or at all. We lease the vast majority of our satellite transponder capacity from EchoStar. Equipment, satellite transponder leasing and digital broadcast operation costs may increase beyond our current expectations. EchoStar's inability to develop and produce, or our inability to obtain, equipment with the latest technology, or our inability to obtain satellite transponder capacity and digital broadcast operations and other services from third parties, could adversely affect our gross new subscriber activations and subscriber churn rate and cause related revenue to decline.

Furthermore, due to the lack of compatibility of our infrastructure with the set-top boxes of a provider other than EchoStar, any transition to a new supplier of set-top boxes could take a significant period of time to complete, cause us to incur significant costs and negatively affect our gross new subscriber activations and subscriber churn. For example, the proprietary nature of the Slingbox "placeshifting" functionality and certain other technology used in EchoStar's set-top boxes may significantly limit our ability to obtain set-top boxes with the same or similar features from any other provider of set-top boxes.

If we were to switch to another provider of set-top boxes, we may have to implement additional infrastructure to support the set-top boxes purchased from such new provider, which could significantly increase our costs. In addition, differences in, among other things, the user interface between set-top boxes provided by EchoStar and those of any other provider could cause subscriber confusion, which could increase our costs and have a material adverse effect on our gross new subscriber activations and subscriber churn. Furthermore, switching to a new provider of set-top boxes may cause a reduction in our supply of set-top boxes and thus delay our ability to ship set-top boxes, which could have a material adverse effect on our gross new subscriber activations and subscriber churn rate and cause related revenue to decline.

See Note 18 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information regarding the Share Exchange Agreement with EchoStar.

Technology in the pay-TV industry changes rapidly, and our success may depend in part on our timely introduction and implementation of, and effective investment in, new competitive products and services and more advanced equipment, and our failure to do so could cause our products and services to become obsolete and could negatively impact our business.

Technology in the pay-TV industry changes rapidly as new technologies are developed, which could cause our products and services to become obsolete. We and our suppliers may not be able to keep pace with technological developments. Our operating results are dependent to a significant extent upon our ability to continue to introduce new products and services, to upgrade existing products and services on a timely basis, and to reduce costs of our existing products and services. We may not be able to successfully identify new product or service opportunities or develop and market these opportunities in a timely or cost-effective manner. The research and development of new, technologically advanced products is a complex and uncertain process requiring high levels of innovation and investment. The success of new product and service development depends on many factors, including among others, the following:

- difficulties and delays in the development, production, timely completion, testing and marketing of products and services;
- the cost of the products and services;
- proper identification of customer need and customer acceptance of products and services;
- the development of, approval of and compliance with industry standards;
- the amount of resources we must devote to the development of new technologies; and
- the ability to differentiate our products and services and compete with other companies in the same markets.

If the new technologies on which we focus our research and development investments fail to achieve acceptance in the marketplace, our competitive position could be negatively impacted, causing a reduction in our revenues and earnings. For example, our competitors could use proprietary technologies that are perceived by the market as being superior. Further, after we have incurred substantial costs, one or more of the products or services under our development, or under development by one or more of our strategic partners, could become obsolete prior to it being widely adopted.

In addition, our competitive position depends in part on our ability to offer new DISH branded pay-TV subscribers and upgrade existing subscribers with more advanced equipment, such as receivers with DVR and HD technology and by otherwise making additional infrastructure investments, such as those related to our information technology and call centers. We may also be at a competitive disadvantage in developing and introducing complex new products and services for our DISH branded pay-TV services because of the substantial costs we may incur in making these products or services available across our installed base of subscribers. Furthermore, the continued demand for HD programming continues to require investments in additional satellite capacity. We may not be able to pass on to our subscribers the entire cost of these upgrades and infrastructure investments.

New technologies could also create new competitors for us. For instance, we face increasing consumer demand for the delivery of digital video services via the Internet, including providing our Sling TV services and what we refer to as "DISH Anywhere." We expect to continue to face increased competition from companies who use the Internet to deliver digital video services as the speed and quality of broadband and wireless networks continues to improve.

Technological innovation is important to our success and depends, to a significant degree, on the work of technically skilled employees. We rely on EchoStar to design, develop and manufacture set-top boxes with advanced features and functionality and to provide the streaming delivery technology and infrastructure for our Sling TV services. If either we or EchoStar is unable to attract and retain appropriately technically skilled employees, our competitive position could be materially and adversely affected. In addition, delays in the delivery of components or other unforeseen problems associated with our technology may occur that could materially and adversely affect our ability to generate revenue, offer new products and services and remain competitive.

If our products and services, including without limitation our DISH branded and Sling branded products and services, are not competitive, our business could suffer and our financial performance could be negatively impacted. Our products and services may also experience quality problems, including outages and service slowdowns, from time to time. If the quality of our products and services do not meet our customers' expectations, then our business, and ultimately our reputation, could be negatively impacted.

We rely on a single vendor or a limited number of vendors to provide certain key products or services to us such as information technology support, billing systems, and security access devices, and the inability of these key vendors to meet our needs could have a material adverse effect on our business.

Historically, we have contracted with and rely on a single vendor or a limited number of vendors to provide certain key products or services to us such as information technology support, billing systems, and security access devices. If these vendors are unable to meet our needs because they fail to perform adequately, are no longer in business, are experiencing shortages or discontinue a certain product or service we need, our business, financial condition and results of operations may be adversely affected. While alternative sources for these products and services exist, we may not be able to develop these alternative sources quickly and cost-effectively, which could materially impair our ability to timely deliver our products to our subscribers or operate our business. Furthermore, our vendors may request changes in pricing, payment terms or other contractual obligations between the parties, which could cause us to make substantial additional investments.

Our primary supplier of new set-top boxes, EchoStar, relies on a few suppliers and in some cases a single supplier, for many components of our new set-top boxes, and any reduction or interruption in supplies or significant increase in the price of supplies could have a negative impact on our business.

EchoStar relies on a few suppliers and in some cases a single supplier, for many components of our new set-top boxes that we provide to subscribers in order to deliver our digital television services. Our ability to meet customer demand depends, in part, on EchoStar's ability to obtain timely and adequate delivery of quality materials, parts and components from suppliers. In the event of an interruption of supply or a significant price increase from these suppliers, EchoStar may not be able to diversify sources of supply in a timely manner, which could have a negative impact on our business. Further, due to increased demand for products, electronic manufacturers may experience shortages for certain components, from time to time. EchoStar has experienced in the past and may continue to experience shortages driven by raw material availability, manufacturing capacity, labor shortages, industry allocations, natural disasters, logistical delays and significant changes in the financial or business conditions of its suppliers that negatively impact our operations. Any such delays or constraints could have a material adverse effect on our business, financial condition and results of operations, including, among other things, our gross new subscriber activations.

Our programming signals are subject to theft, and we are vulnerable to other forms of fraud that could require us to make significant expenditures to remedy.

Increases in theft of our signal or our competitors' signals could, in addition to reducing gross new subscriber activations, also cause subscriber churn to increase. To combat signal theft and improve the security of our broadcast system, we use microchips embedded in credit card sized access cards, called "smart cards," or security chips in our receiver systems to control access to authorized programming content ("Security Access Devices").

Our signal encryption has been compromised in the past and may be compromised in the future even though we continue to respond with significant investment in security measures, such as Security Access Device replacement programs and updates in security software, that are intended to make signal theft more difficult. It has been our prior experience that security measures may only be effective for short periods of time or not at all and that we remain susceptible to additional signal theft. We expect that future replacements of these Security Access Devices may be necessary to keep our system secure. We cannot ensure that we will be successful in reducing or controlling theft of our programming content and we may incur additional costs in the future if our system's security is compromised.

We are also vulnerable to other forms of fraud. While we are addressing certain fraud through a number of actions, including terminating independent third-party retailers that we believe violated our business rules, there can be no assurance that we will not continue to experience fraud, which could impact our gross new subscriber activations and subscriber churn. Economic weakness may create greater incentive for signal theft, piracy and other forms of fraud, which could lead to higher subscriber churn and reduced revenue.

We depend on independent third parties to solicit orders for our services that represent a significant percentage of our total gross new subscriber activations.

While we offer products and services through direct sales channels, a significant percentage of our total gross new subscriber activations are generated through independent third parties such as small satellite retailers, direct marketing groups, local and regional consumer electronics stores, nationwide retailers, and telecommunications companies. Most of our independent third-party retailers are not exclusive to us and some of our independent third-party retailers may favor our competitors' products and services over ours based on the relative financial arrangements associated with marketing our products and services and those of our competitors. Furthermore, most of these independent third-party retailers are significantly smaller than we are and may be more susceptible to economic weaknesses that make it more difficult for them to operate profitably. Because our independent third-party retailers receive most of their incentive value at activation and not over an extended period of time, our interests may not always be aligned with our independent third-party retailers. It may be difficult to better align our interests with our independent third-party retailers because of their capital and liquidity constraints. Loss of these relationships could have an adverse effect on our subscriber base and certain of our other key operating metrics because we may not be able to develop comparable alternative distribution channels.

We have limited satellite capacity and failures or reduced capacity could adversely affect our DISH branded pay-TV service.

Operation of our DISH branded pay-TV service requires that we have adequate satellite transmission capacity for the programming we offer. While we generally have had in-orbit satellite capacity sufficient to transmit our existing channels and some backup capacity to recover the transmission of certain critical programming, our backup capacity is limited. We lease substantially all of our satellite capacity from third parties, including the vast majority of our satellite transponder capacity from EchoStar, and we do not carry commercial insurance on any of the satellites that we lease from them.

Our ability to earn revenue from our DISH branded pay-TV service depends on the usefulness of our owned and leased satellites, each of which has a limited useful life. A number of factors affect the useful lives of the satellites, including, among other things, the quality of their construction, the durability of their component parts, the ability to continue to maintain proper orbit and control over the satellite's functions, the efficiency of the launch vehicle used, and the remaining on-board fuel following orbit insertion. Generally, the minimum design life of each of our owned and leased satellites ranges from 12 to 15 years. We can provide no assurance, however, as to the actual useful lives of any of these satellites. Our operating results could be adversely affected if the useful life of any of our owned or leased satellites were significantly shorter than the minimum design life.

In the event of a failure or loss of any of our owned or leased satellites, we may need to acquire or lease additional satellite capacity or relocate one of our other owned or leased satellites and use it as a replacement for the failed or lost satellite, any of which could have a material adverse effect on our business, financial condition and results of operations. Such a failure could result in a prolonged loss of critical programming. A relocation would require FCC approval and, among other things, may require a showing to the FCC that the replacement satellite would not cause additional interference compared to the failed or lost satellite. We cannot be certain that we could obtain such FCC approval. If we choose to use a satellite in this manner, this use could adversely affect our ability to satisfy certain operational conditions associated with our authorizations. Failure to satisfy those conditions could result in the loss of such authorizations, which would have an adverse effect on our ability to generate revenues.

Our owned and leased satellites are subject to construction, launch, operational and environmental risks that could limit our ability to utilize these satellites.

Construction and launch risks. Operation of our DISH branded pay-TV service requires that we have adequate satellite transmission capacity for the programming we offer. To accomplish this goal, from time to time, new satellites need to be built and launched. Satellite construction and launch is subject to significant risks, including construction and launch delays, launch failure and incorrect orbital placement. Certain launch vehicles that may be used by us have either unproven track records or have experienced launch failures in the recent past. The risks of launch delay and failure are usually greater when the launch vehicle does not have a track record of previous successful flights. Launch failures result in significant delays in the deployment of satellites because of the need both to construct replacement satellites, which can take more than three years, and to obtain other launch opportunities. Significant construction or launch delays could materially and adversely affect our ability to generate revenues. If we were unable to obtain launch insurance, or obtain launch insurance at rates we deem commercially reasonable, and a significant launch failure were to occur, it could impact our ability to fund future satellite procurement and launch opportunities.

In addition, the occurrence of future launch failures for other operators may delay the deployment of our satellites and materially and adversely affect our ability to insure the launch of our satellites at commercially reasonable premiums, if at all. See " *We generally do not carry commercial launch or in-orbit insurance on any of the satellites that we use, other than certain satellites leased from third parties, and could face significant impairment charges if any of our owned satellites fail* " below for further information.

Operational risks . Satellites are subject to significant operational risks while in orbit. These risks include malfunctions, commonly referred to as anomalies that have occurred in our satellites and the satellites of other operators as a result of various factors, such as manufacturing defects, problems with the power systems or control systems of the satellites and general failures resulting from operating satellites in the harsh environment of space.

Although we work closely with the satellite manufacturers to determine and eliminate the cause of anomalies in new satellites and provide for redundancies of many critical components in the satellites, we may experience anomalies in the future, whether of the types described above or arising from the failure of other systems or components.

Any single anomaly or series of anomalies could materially and adversely affect our operations and revenues and our relationship with current customers, as well as our ability to attract new customers for our Pay-TV services. In particular, future anomalies may result in the loss of individual transponders on a satellite, a group of transponders on that satellite or the entire satellite, depending on the nature of the anomaly. Anomalies may also reduce the expected useful life of a satellite, thereby reducing the channels that could be offered using that satellite, or create additional expenses due to the need to provide replacement or back-up satellites. See the disclosures relating to satellite anomalies set forth under Note 8 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Environmental risks. Meteoroid events pose a potential threat to all in-orbit satellites. The probability that meteoroids will damage those satellites increases significantly when the Earth passes through the particulate stream left behind by comets. Occasionally, increased solar activity also poses a potential threat to all in-orbit satellites.

Some decommissioned satellites are in uncontrolled orbits that pass through the geostationary belt at various points, and present hazards to operational satellites, including our satellites. We may be required to perform maneuvers to avoid collisions and these maneuvers may prove unsuccessful or could reduce the useful life of the satellite through the expenditure of fuel to perform these maneuvers. The loss, damage or destruction of any of our satellites as a result of an electrostatic storm, collision with space debris, malfunction or other event could have a material adverse effect on our business, financial condition and results of operations.

We generally do not carry commercial launch or in-orbit insurance on any of the satellites that we use, other than certain satellites leased from third parties, and could face significant impairment charges if any of our owned satellites fail.

Generally, we do not carry commercial launch or in-orbit insurance on any of the satellites we use, other than certain satellites leased from third parties, and generally do not use commercial insurance to mitigate the potential financial impact of launch or in-orbit failures because we believe that the cost of insurance premiums is uneconomical relative to the risk of such failures. We lease substantially all of our satellite capacity from third parties, including the vast majority of our satellite transponder capacity from EchoStar, and we do not carry commercial insurance on any of the satellites we lease from them. While we generally have had in-orbit satellite capacity sufficient to transmit our existing channels and some backup capacity to recover the transmission of certain critical programming, our backup capacity is limited. In the event of a failure or loss of any of our owned or leased satellites, we may need to acquire or lease additional satellite capacity or relocate one of our other owned or leased satellites and use it as a replacement for the failed or lost satellite. If one or more of our owned in-orbit satellites fail, we could be required to record significant impairment charges.

We may have potential conflicts of interest with EchoStar due to our common ownership and management.

Questions relating to conflicts of interest may arise between EchoStar and us in a number of areas relating to our past and ongoing relationships. Areas in which conflicts of interest between EchoStar and us could arise include, but are not limited to, the following:

- *Cross officerships, directorships and stock ownership.* We have certain overlap in directors and executive officers with EchoStar. These individuals may have actual or apparent conflicts of interest with respect to matters involving or affecting each company. Our Board of Directors and executive officers include persons who are members of the Board of Directors of EchoStar, including Charles W. Ergen, who serves as the Chairman of EchoStar and our Chairman and Chief Executive Officer. The executive officers and the members of our Board of Directors who are members of the Board of Directors of EchoStar have fiduciary duties to EchoStar's shareholders. For example, there is the potential for a conflict of interest when we or EchoStar look at acquisitions and other business opportunities that may be suitable for both companies. In addition, certain of our directors and officers own EchoStar stock and options to purchase EchoStar stock. Mr. Ergen owns approximately 36.8% of EchoStar's total equity securities (assuming conversion of all Class B Common Stock into Class A Common Stock) and beneficially owns approximately 43.4% of EchoStar's total equity securities (assuming conversion of only the Class B Common Stock held by Mr. Ergen into Class A Common Stock). Under either a beneficial or equity calculation method, Mr. Ergen controls approximately 63.7% of the voting power of EchoStar. Mr. Ergen's ownership of EchoStar excludes 14,493,094 shares of its Class A Common Stock issuable upon conversion of shares of its Class B Common Stock currently held by certain trusts established by Mr. Ergen for the benefit of his family. These trusts own approximately 15.4% of EchoStar's total equity securities (assuming conversion of all Class B Common Stock into Class A Common Stock) and beneficially own approximately 23.7% of EchoStar's total equity securities (assuming conversion of only the Class B Common Stock held by such trusts into Class A Common Stock). Under either a beneficial or equity calculation method, these trusts possess approximately 27.7% of EchoStar's total voting power. These ownership interests could create actual, apparent or potential conflicts of interest when these individuals are faced with decisions that could have different implications for us and EchoStar. Furthermore, Mr. Ergen is employed by both us and EchoStar. In addition, as a result of the Satellite and Tracking Stock Transaction discussed in Note 18 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K, we own shares of Tracking Stock that generally tracks the residential retail satellite broadband business of HNS, a wholly-owned subsidiary of HSSC, including without limitation the operations, assets and liabilities attributed to the Hughes residential retail satellite broadband business (collectively, the "Hughes Retail Group"). The shares of the Tracking Stock issued to us represent an aggregate 80% economic interest in the Hughes Retail Group. Although our investment in the Tracking Stock represents an aggregate 80% economic interest in the Hughes Retail Group, we have no operational control or significant influence over the Hughes Retail Group business, and currently there is no public market for the Tracking Stock. Further, effective July 1, 2012, we and EchoStar formed Sling TV Holding L.L.C. ("Sling TV Holding," formerly known as DISH Digital Holding L.L.C.), which was owned two-thirds by us and one-third by EchoStar. Sling TV Holding was formed to develop and commercialize certain advanced technologies. Effective August 1, 2014, EchoStar and Sling TV Holding entered into an Exchange Agreement pursuant to which, among other things, Sling TV Holding distributed certain assets to EchoStar and EchoStar reduced its interest in Sling TV Holding to a 10% non-voting interest. We now have a 90% equity interest and a 100% voting interest in Sling TV Holding.

- *Intercompany agreements with EchoStar.* In connection with and following the Spin-off, we and EchoStar have entered into certain agreements pursuant to which we obtain certain products, services and rights from EchoStar, EchoStar obtains certain products, services and rights from us, and we and EchoStar have indemnified each other against certain liabilities arising from our respective businesses. See Note 18 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information on our Related Party Transactions with EchoStar. The terms of certain of these agreements were established while EchoStar was a wholly-owned subsidiary of us and were not the result of arm's length negotiations. The allocation of assets, liabilities, rights, indemnifications and other obligations between EchoStar and us under the separation and other intercompany agreements we entered into with EchoStar, in connection with the Spin-off, may have been different if agreed to by two unaffiliated parties. Had these agreements been negotiated with unaffiliated third parties, their terms may have been more favorable, or less favorable, to us. In addition, conflicts could arise between us and EchoStar in the interpretation or any extension or renegotiation of these existing agreements.

- *Additional intercompany transactions.* EchoStar and its subsidiaries have and will continue to enter into transactions with us and our subsidiaries. Although the terms of any such transactions will be established based upon negotiations between EchoStar and us and, when appropriate, subject to the approval of a committee of the non-interlocking directors or in certain instances non-interlocking management, there can be no assurance that the terms of any such transactions will be as favorable to us or our subsidiaries or affiliates as may otherwise be obtained between unaffiliated parties.

- *Business opportunities.* We have historically retained, and in the future may acquire, interests in various companies that have subsidiaries or controlled affiliates that own or operate domestic or foreign services that may compete with services offered by EchoStar. We may also compete with EchoStar when we participate in auctions for spectrum or orbital slots for our satellites. In addition, EchoStar may in the future use its satellites, uplink and transmission assets to compete directly against us in the subscription television business.

We may not be able to resolve any potential conflicts of interest with EchoStar, and, even if we do so, the resolution may be less favorable to us than if we were dealing with an unaffiliated party.

Other than certain arrangements with EchoStar that we entered into in connection with Sling TV Holding, which, subject to certain exceptions, limit EchoStar's and our ability to operate an IPTV service other than operated by Sling TV Holding, we do not have agreements with EchoStar that would prevent either company from competing with the other.

See Note 18 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information regarding the Share Exchange Agreement with EchoStar.

We rely on key personnel and the loss of their services may negatively affect our business.

We believe that our future success will depend to a significant extent upon the performance of Charles W. Ergen, our Chairman and Chief Executive Officer, and certain other executives. The loss of Mr. Ergen or of certain other key executives could have a material adverse effect on our business, financial condition and results of operations. Although all of our executives have executed agreements limiting their ability to work for or consult with competitors if they leave us, we do not have employment agreements with any of them. Mr. Ergen also serves as the Chairman of EchoStar. To the extent our officers are performing services for EchoStar, this may divert their time and attention away from our business and may therefore adversely affect our business.

Acquisition and Capital Structure Risks

We have made substantial investments to acquire certain wireless spectrum licenses and other related assets. In addition, we have made substantial non-controlling investments in the Northstar Entities and the SNR Entities related to AWS-3 wireless spectrum licenses.

DISH Network Spectrum

We have invested over $5.0 billion since 2008 to acquire certain wireless spectrum licenses and related assets.

700 MHz Licenses . In 2008, we paid $712 million to acquire certain 700 MHz wireless spectrum licenses, which were granted to us by the FCC in February 2009. At the time they were granted, these licenses were subject to certain interim and final build-out requirements. On October 29, 2013, the FCC issued an order approving a voluntary industry solution to resolve certain interoperability issues affecting the lower 700 MHz spectrum band (the "Interoperability Solution Order"), which requires us to reduce power emissions on our 700 MHz licenses. As part of the Interoperability Solution Order, the FCC, among other things, approved our request to modify the original interim and final build-out requirements associated with our 700 MHz licenses so that by March 2017, we must provide signal coverage and offer service to at least 40% of our total E Block population (the "Modified 700 MHz Interim Build-Out Requirement"). The FCC also approved our request to modify the 700 MHz Final Build-Out Requirement so that by March 2021, we must provide signal coverage and offer service to at least 70% of the population in each of our E Block license areas (the "Modified 700 MHz Final Build-Out Requirement"). While the modifications to our 700 MHz licenses provide us additional time to complete the build-out requirements, the reduction in power emissions could have an adverse impact on our ability to fully utilize our 700 MHz licenses. If the Modified 700 MHz Interim Build-Out Requirement is not met, the Modified 700 MHz Final Build-Out Requirement may be accelerated by one year, from March 2021 to March 2020, and we could face the reduction of license area(s). If the Modified 700 MHz Final Build-Out Requirement is not met, our authorization may terminate for the geographic portion of each license in which we are not providing service.

AWS-4 Licenses . On March 2, 2012, the FCC approved the transfer of 40 MHz of wireless spectrum licenses held by DBSD North America and TerreStar to us. On March 9, 2012, we completed the DBSD Transaction and the TerreStar Transaction, pursuant to which we acquired, among other things, certain satellite assets and wireless spectrum licenses held by DBSD North America and TerreStar. The total consideration to acquire the DBSD North America and TerreStar assets was approximately $2.860 billion.

On February 15, 2013, the FCC issued an order, which became effective on March 7, 2013, modifying our licenses to expand our terrestrial operating authority with AWS-4 authority. That order also mandated certain interim and final build-out requirements for the licenses. By March 2017, we must provide terrestrial signal coverage and offer terrestrial service to at least 40% of the aggregate population represented by all of the areas covered by the licenses (the "AWS-4 Interim Build-Out Requirement"). By March 2020, we were required to provide terrestrial signal coverage and offer terrestrial service to at least 70% of the population in each area covered by an individual license (the "AWS-4 Final Build-Out Requirement").

On December 20, 2013, the FCC issued a further order that, among other things, extended the AWS-4 Final Build-Out Requirement by one year to March 2021 (the "Modified AWS-4 Final Build-Out Requirement"). If the AWS-4 Interim Build-Out Requirement is not met, the Modified AWS-4 Final Build-Out Requirement may be accelerated by one year, from March 2021 to March 2020. If the Modified AWS-4 Final Build-Out Requirement is not met, our terrestrial authorization for each license area in which we do not meet the requirement may terminate. The FCC's December 20, 2013 order also conditionally waived certain FCC rules for our AWS-4 licenses to allow us to repurpose all 20 MHz of our uplink spectrum (2000-2020 MHz) for terrestrial downlink operations. On June 1, 2016, we notified the FCC that we had elected to use our AWS-4 uplink spectrum for terrestrial downlink operations, and effective June 7, 2016, the FCC modified our AWS-4 licenses, resulting in all 40 MHz of our AWS-4 spectrum being designated for terrestrial downlink operations.

H Block Licenses . On April 29, 2014, the FCC issued an order granting our application to acquire all 176 wireless spectrum licenses in the H Block auction. We paid approximately $1.672 billion to acquire these H Block licenses, including clearance costs associated with the lower H Block spectrum. The H Block licenses are subject to certain interim and final build-out requirements. By April 2018, we must provide reliable signal coverage and offer service to at least 40% of the population in each area covered by an individual H Block license (the "H Block Interim Build-Out Requirement"). By April 2024, we must provide reliable signal coverage and offer service to at least 75% of the population in each area covered by an individual H Block license (the "H Block Final Build-Out Requirement"). If the H Block Interim Build-Out Requirement is not met, the H Block license term and the H Block Final Build-Out Requirement may be accelerated by two years (from April 2024 to April 2022) for each H Block license area in which we do not meet the requirement. If the H Block Final Build-Out Requirement is not met, our authorization for each H Block license area in which we do not meet the requirement may terminate.

MVDDS Licenses . We have MVDDS licenses in 82 out of 214 geographical license areas, including Los Angeles, New York City, Chicago and several other major metropolitan areas. By August 2014, we were required to meet certain FCC build-out requirements related to our MVDDS licenses, and we are subject to certain FCC service rules applicable to these licenses. In January 2015, the FCC granted our application to extend the build-out requirements related to our MVDDS licenses. We now have until 2019 to provide "substantial service" on our MVDDS licenses, and the licenses expire in 2024. Our MVDDS licenses may be terminated, however, if we do not provide substantial service in accordance with the new build-out requirements.

In 2016, the MVDDS 5G Coalition, of which we are a member, filed a petition for rulemaking requesting the FCC to consider updating the rules to allow us to provide two-way 5G services using our MVDDS licenses. We cannot predict when or if the FCC will grant the petition and proceed with a rulemaking. If the FCC adopts rules that would allow us to provide two-way 5G services using our MVDDS licenses, the requests of OneWeb and others for authority to use the band for service from NGSO satellite systems may hinder our ability to provide 5G services using our MVDDS licenses.

Commercialization of Our Wireless Spectrum Licenses and Related Assets. We have made substantial investments to acquire certain wireless spectrum licenses and related assets. We will need to make significant additional investments or partner with others to, among other things, commercialize, build-out, and integrate these licenses and related assets, and any additional acquired licenses and related assets; and comply with regulations applicable to such licenses. Depending on the nature and scope of such commercialization, build-out, integration efforts, and regulatory compliance, any such investments or partnerships could vary significantly. We may also determine that additional wireless spectrum licenses may be required to commercialize our wireless business and to compete with other wireless service providers.

Auction 1000. On February 10, 2016, we filed an application with the FCC to potentially participate as a bidder in the forward auction phase of Auction 1000. The available spectrum in each licensed geographic area in Auction 1000 is generally comprised of certain paired 5x5 spectrum blocks (5 MHz uplink spectrum and 5 MHz downlink spectrum). As a result, a nationwide footprint may be obtained by aggregating a single 5x5 spectrum block in each available licensed geographic area.

Auction 1000 has had multiple stages, with each stage having two phases. With respect to each stage, in the first phase, or reverse auction phase, participating television broadcasters "sell" their rights to use certain broadcast television spectrum in the 600 MHz frequency range to the FCC. Then following the first phase of a stage, in the second phase, or forward auction phase, the FCC will "resell" that spectrum to auction participants. In the event that certain criteria are not met within a particular stage for Auction 1000 to conclude, Auction 1000 then proceeds to a subsequent stage with less available spectrum than the immediately preceding stage and lower spectrum clearing targets.

Before the forward auction phase of Stage 1 of Auction 1000 began, a qualified bidder in the forward auction could make an upfront deposit of up to approximately $5.4 billion. On July 15, 2016, the FCC announced that a subsidiary of DISH Network and 61 other applicants were qualified to participate in the forward auction. The FCC determined that bidding in Auction 1000 will be "anonymous," which means that prior to and during the course of the auction, the FCC will not make public any information about a specific applicant's upfront deposits or its bids. In addition, FCC rules restrict information that applicants may disclose about their participation in Auction 1000.

- *Stage 1:* The reverse auction phase of Stage 1 began on March 29, 2016 and ended on June 29, 2016. Pursuant to the FCC's procedures for Auction 1000 and based on the results of the reverse auction phase of Stage 1, in order for Auction 1000 to have ultimately concluded, the aggregate bids in the forward auction phase of Stage 1 would have had to have exceeded approximately $88.4 billion. The forward auction phase of Stage 1 included 100 MHz of spectrum in over 90% of the available licensed geographic areas, based on the broadcasters' indicated availability of spectrum in the reverse auction phase. The forward auction phase of Stage 1 began on August 16, 2016 and ended on August 30, 2016, but the aggregate bids of approximately $23.1 billion did not exceed the approximately $88.4 billion required for Auction 1000 to ultimately conclude. As a result, Auction 1000 moved to Stage 2.

- *Stage 2:* The reverse auction phase of Stage 2 began on September 13, 2016 and ended on October 13, 2016. Pursuant to the FCC's procedures for Auction 1000 and based on the results of the reverse auction phase of Stage 2, in order for Auction 1000 to have ultimately concluded, the aggregate bids in the forward auction phase of Stage 2 would have had to have exceeded approximately $56.5 billion. The forward auction phase of Stage 2 included 90 MHz of spectrum in over 90% of the available licensed geographic areas, based on the broadcasters' indicated availability of spectrum in the reverse auction phase. The forward auction phase of Stage 2 began and ended on October 19, 2016, but the aggregate bids of approximately $21.5 billion did not exceed the approximately $56.5 billion required for Auction 1000 to ultimately conclude. As a result, Auction 1000 moved to Stage 3.

- *Stage 3:* The reverse auction phase of Stage 3 began on November 1, 2016 and ended on December 1, 2016. Pursuant to the FCC's procedures for Auction 1000 and based on the results of the reverse auction phase of Stage 3, in order for Auction 1000 to have ultimately concluded, the aggregate bids in the forward auction phase of Stage 3 would have had to have exceeded approximately $42.3 billion. The forward auction phase of Stage 3 included 80 MHz of spectrum in over 90% of the available licensed geographic areas, based on the broadcasters' indicated availability of spectrum in the reverse auction phase. The forward auction phase of Stage 3 began and ended on December 5, 2016, but the aggregate bids of approximately $19.7 billion did not exceed the approximately $42.3 billion required for Auction 1000 to ultimately conclude. As a result, Auction 1000 moved to Stage 4.

- Stage 4: The reverse auction phase of Stage 4 began on December 13, 2016 and ended on January 13, 2017. Pursuant to the FCC's procedures for Auction 1000 and based on the results of the reverse auction phase of Stage 4, in order for Auction 1000 to ultimately conclude, the aggregate bids in the forward auction phase of Stage 4 would have to exceed approximately $12.0 billion. The forward auction phase of Stage 4 includes 70 MHz of spectrum in over 90% of the available licensed geographic areas, based on the broadcasters' indicated availability of spectrum in the reverse auction phase. The clock bidding portion of the forward auction phase of Stage 4 began on January 18, 2017 and ended on February 10, 2017. The aggregate bids of approximately $19.6 billion exceeded the approximately $12.0 billion required for Auction 1000 to ultimately conclude. As a result, Auction 1000 moved to the assignment portion of the forward auction phase in which winning bidders in the clock bidding portion have the opportunity to bid for frequency-specific licenses. The assignment portion is scheduled to begin on March 6, 2017, and all assignment rounds are expected to end no later than March 30, 2017. During the assignment portion, the FCC rules restricting information that forward auction applicants may disclose about their participation in Auction 1000 remain in place. As mentioned above, a subsidiary of DISH Network qualified to participate in the forward auction. To the extent that it is the winning bidder for any 600 MHz licenses, we would expect to pay for such licenses from any upfront deposit made with the FCC and/or existing cash and marketable investment securities balances.

We may need to raise significant additional capital in the future to fund the efforts described above, which may not be available on acceptable terms or at all. There can be no assurance that we will be able to develop and implement a business model that will realize a return on these wireless spectrum licenses or that we will be able to profitably deploy the assets represented by these wireless spectrum licenses, which may affect the carrying amount of these assets and our future financial condition or results of operations.

DISH Network Non-Controlling Investments in the Northstar Entities and the SNR Entities Related to AWS-3 Wireless Spectrum Licenses

Through our wholly-owned subsidiaries American II and American III, we have made over $10.0 billion in certain non-controlling investments in Northstar Spectrum, the parent company of Northstar Wireless, and in SNR HoldCo, the parent company of SNR Wireless, respectively. Northstar Wireless and SNR Wireless each filed applications with the FCC to participate in Auction 97 (the "AWS-3 Auction") for the purpose of acquiring certain AWS-3 Licenses. Each of Northstar Wireless and SNR Wireless applied to receive bidding credits of 25% as designated entities under applicable FCC rules. In February 2015, one of our wholly-owned subsidiaries received a refund from the FCC of its $400 million upfront payment made in 2014 related to the AWS-3 Auction.

Northstar Wireless was the winning bidder for AWS-3 Licenses with gross winning bid amounts totaling approximately $7.845 billion, which after taking into account a 25% bidding credit, is approximately $5.884 billion. SNR Wireless was the winning bidder for AWS-3 Licenses with gross winning bid amounts totaling approximately $5.482 billion, which after taking into account a 25% bidding credit, is approximately $4.112 billion. In addition to the net winning bids, SNR Wireless made a bid withdrawal payment of approximately $8 million.

On August 18, 2015, the FCC released a *Memorandum Opinion and Order* , FCC 15-104 (the "Order") in which the FCC determined, among other things, that DISH Network has a controlling interest in, and is an affiliate of, Northstar Wireless and SNR Wireless, and therefore DISH Network's revenues should be attributed to them, which in turn makes Northstar Wireless and SNR Wireless ineligible to receive the 25% bidding credits (approximately $1.961 billion for Northstar Wireless and $1.370 billion for SNR Wireless) (each a "Bidding Credit Amount" and collectively the "Bidding Credit Amounts"). Each of Northstar Wireless and SNR Wireless has filed a notice of appeal and petition for review of the Order with the United States Court of Appeals for the District of Columbia, challenging, among other things, the FCC's determination that they are ineligible to receive the Bidding Credit Amounts. Oral arguments were presented to the Court on September 26, 2016. We cannot predict with any degree of certainty the timing or outcome of these proceedings.

On October 1, 2015, DISH Network, American II, American III, Northstar Wireless, SNR Wireless, and certain other entities holding certain interests in Northstar Wireless and SNR Wireless, entered into a series of arrangements with respect to the AWS-3 Licenses, as further described below.

Letters Exchanged between Northstar Wireless and the FCC Wireless Bureau. As outlined in letters exchanged between Northstar Wireless and the Wireless Telecommunications Bureau of the FCC (the "FCC Wireless Bureau"), Northstar Wireless paid the gross winning bid amounts for 261 AWS-3 Licenses (the "Northstar Licenses") totaling approximately $5.619 billion through the application of funds already on deposit with the FCC. Northstar Wireless also notified the FCC that it would not be paying the gross winning bid amounts for 84 AWS-3 Licenses totaling approximately $2.226 billion.

As a result of the nonpayment of those gross winning bid amounts, the FCC retained those licenses and Northstar Wireless owed the FCC an additional interim payment of approximately $334 million (the "Northstar Interim Payment"), which is equal to 15% of $2.226 billion. The Northstar Interim Payment was recorded in "FCC auction expense" on our Consolidated Statements of Operations and Comprehensive Income (Loss) for the year ended December 31, 2015. Northstar Wireless immediately satisfied the Northstar Interim Payment through the application of funds already on deposit with the FCC and an additional loan from American II of approximately $69 million. As a result, the FCC will not deem Northstar Wireless to be a "current defaulter" under applicable FCC rules.

In addition, the FCC Wireless Bureau acknowledged that Northstar Wireless' nonpayment of those gross winning bid amounts does not constitute action involving gross misconduct, misrepresentation or bad faith. Therefore, the FCC concluded that such nonpayment will not affect the eligibility of Northstar Wireless, its investors (including DISH Network) or their respective affiliates to participate in future spectrum auctions (including Auction 1000 and any re-auction of the AWS-3 Licenses retained by the FCC). At this time, DISH Network (through itself, a subsidiary or another entity in which it may hold a direct or indirect interest) expects to participate in any re-auction of those AWS-3 Licenses.

If the winning bids from re-auction or other award of the AWS-3 Licenses retained by the FCC are greater than or equal to the winning bids of Northstar Wireless, no additional amounts will be owed to the FCC. However, if those winning bids are less than the winning bids of Northstar Wireless, then Northstar Wireless will be responsible for the difference less any overpayment of the Northstar Interim Payment (which will be recalculated as 15% of the winning bids from re-auction or other award) (the "Northstar Re-Auction Payment"). For example, if the winning bids in a re-auction are $1, the Northstar Re-Auction Payment would be approximately $1.892 billion, which is calculated as the difference between $2.226 billion (the Northstar winning bid amounts) and $1 (the winning bids from re-auction) less the resulting $334 million overpayment of the Northstar Interim Payment. As discussed above, at this time, DISH Network (through itself, a subsidiary or another entity in which it may hold a direct or indirect interest) expects to participate in any re-auction. We cannot predict with any degree of certainty the timing or outcome of any re-auction or the amount of any Northstar Re-Auction Payment.

Amendment to Northstar Wireless Credit Agreement. On October 1, 2015, American II, Northstar Wireless and Northstar Spectrum amended the First Amended and Restated Credit Agreement dated October 13, 2014, by and among American II, as Lender, Northstar Wireless, as Borrower, and Northstar Spectrum, as Guarantor (as amended, the "Northstar Credit Agreement"), to provide, among other things, that: (i) the Northstar Interim Payment and any Northstar Re-Auction Payment will be made by American II directly to the FCC and will be deemed as loans under the Northstar Credit Agreement; (ii) the FCC is a third-party beneficiary with respect to American II's obligation to pay the Northstar Interim Payment and any Northstar Re-Auction Payment; (iii) in the event that the winning bids from re-auction or other award of the AWS-3 Licenses retained by the FCC are less than the winning bids of Northstar Wireless, the purchaser, assignee or transferee of any AWS-3 Licenses from Northstar Wireless is obligated to pay its pro-rata share of the difference (and Northstar Wireless remains jointly and severally liable for such pro-rata share); and (iv) during the period between the due date for the payments guaranteed under the FCC Northstar Guaranty (as discussed below) and the date such guaranteed payments are paid, Northstar Wireless' payment obligations to American II under the Northstar Credit Agreement will be subordinated to such guaranteed payments.

DISH Network Guaranty in Favor of the FCC for Certain Northstar Wireless Obligations . On October 1, 2015, DISH Network entered into a guaranty in favor of the FCC (the "FCC Northstar Guaranty") with respect to the Northstar Interim Payment (which was satisfied on October 1, 2015) and any Northstar Re-Auction Payment. The FCC Northstar Guaranty provides, among other things, that during the period between the due date for the payments guaranteed under the FCC Northstar Guaranty and the date such guaranteed payments are paid: (i) Northstar Wireless' payment obligations to American II under the Northstar Credit Agreement will be subordinated to such guaranteed payments; and (ii) DISH Network or American II will withhold exercising certain rights as a creditor of Northstar Wireless.

Letters Exchanged between SNR Wireless and the FCC Wireless Bureau. As outlined in letters exchanged between SNR Wireless and the FCC Wireless Bureau, SNR Wireless paid the gross winning bid amounts for 244 AWS-3 Licenses (the "SNR Licenses") totaling approximately $4.271 billion through the application of funds already on deposit with the FCC and a portion of an additional loan from American III in an aggregate amount of approximately $344 million (which included an additional bid withdrawal payment of approximately $3 million). SNR Wireless also notified the FCC that it would not be paying the gross winning bid amounts for 113 AWS-3 Licenses totaling approximately $1.211 billion.

As a result of the nonpayment of those gross winning bid amounts, the FCC retained those licenses and SNR Wireless owed the FCC an additional interim payment of approximately $182 million (the "SNR Interim Payment"), which is equal to 15% of $1.211 billion. The SNR Interim Payment was recorded in "FCC auction expense" on our Consolidated Statements of Operations and Comprehensive Income (Loss) for the year ended December 31, 2015. SNR Wireless immediately satisfied the SNR Interim Payment through a portion of an additional loan from American III in an aggregate amount of approximately $344 million. As a result, the FCC will not deem SNR Wireless to be a "current defaulter" under applicable FCC rules.

In addition, the FCC Wireless Bureau acknowledged that SNR Wireless' nonpayment of those gross winning bid amounts does not constitute action involving gross misconduct, misrepresentation or bad faith. Therefore, the FCC concluded that such nonpayment will not affect the eligibility of SNR Wireless, its investors (including DISH Network) or their respective affiliates to participate in future spectrum auctions (including Auction 1000 and any re-auction of the AWS-3 Licenses retained by the FCC). At this time, DISH Network (through itself, a subsidiary or another entity in which it may hold a direct or indirect interest) expects to participate in any re-auction of those AWS-3 Licenses.

If the winning bids from re-auction or other award of the AWS-3 Licenses retained by the FCC are greater than or equal to the winning bids of SNR Wireless, no additional amounts will be owed to the FCC. However, if those winning bids are less than the winning bids of SNR Wireless, then SNR Wireless will be responsible for the difference less any overpayment of the SNR Interim Payment (which will be recalculated as 15% of the winning bids from re-auction or other award) (the "SNR Re-Auction Payment"). For example, if the winning bids in a re-auction are $1, the SNR Re-Auction Payment would be approximately $1.029 billion, which is calculated as the difference between $1.211 billion (the SNR winning bid amounts) and $1 (the winning bids from re-auction) less the resulting $182 million overpayment of the SNR Interim Payment. As discussed above, at this time, DISH Network (through itself, a subsidiary or another entity in which it may hold a direct or indirect interest) expects to participate in any re-auction. We cannot predict with any degree of certainty the timing or outcome of any re-auction or the amount of any SNR Re-Auction Payment.

Amendment to SNR Wireless Credit Agreement . On October 1, 2015, American III, SNR Wireless and SNR HoldCo amended the First Amended and Restated Credit Agreement dated October 13, 2014, by and among American III, as Lender, SNR Wireless, as Borrower, and SNR HoldCo, as Guarantor (as amended, the "SNR Credit Agreement"), to provide, among other things, that: (i) the SNR Interim Payment and any SNR Re-Auction Payment will be made by American III directly to the FCC and will be deemed as loans under the SNR Credit Agreement; (ii) the FCC is a third-party beneficiary with respect to American III's obligation to pay the SNR Interim Payment and any SNR Re-Auction Payment; (iii) in the event that the winning bids from re-auction or other award of the AWS-3 Licenses retained by the FCC are less than the winning bids of SNR Wireless, the purchaser, assignee or transferee of any AWS-3 Licenses from SNR Wireless is obligated to pay its pro-rata share of the difference (and SNR Wireless remains jointly and severally liable for such pro-rata share); and (iv) during the period between the due date for the payments guaranteed under the FCC SNR Guaranty (as discussed below) and the date such guaranteed payments are paid, SNR Wireless' payment obligations to American III under the SNR Credit Agreement will be subordinated to such guaranteed payments.

DISH Network Guaranty in Favor of the FCC for Certain SNR Wireless Obligations. On October 1, 2015, DISH Network entered into a guaranty in favor of the FCC (the "FCC SNR Guaranty") with respect to the SNR Interim Payment (which was satisfied on October 1, 2015) and any SNR Re-Auction Payment. The FCC SNR Guaranty provides, among other things, that during the period between the due date for the payments guaranteed under the FCC SNR Guaranty and the date such guaranteed payments are paid: (i) SNR Wireless' payment obligations to American III under the SNR Credit Agreement will be subordinated to such guaranteed payments; and (ii) DISH Network or American III will withhold exercising certain rights as a creditor of SNR Wireless.

Northstar Wireless is a wholly-owned subsidiary of Northstar Spectrum. Through American II, we own an 85% non-controlling interest in Northstar Spectrum. Northstar Manager, LLC ("Northstar Manager") owns a 15% controlling interest in, and is the sole manager of, Northstar Spectrum. Northstar Spectrum is governed by a limited liability company agreement by and between American II and Northstar Manager (the "Northstar Spectrum LLC Agreement"). Pursuant to the Northstar Spectrum LLC Agreement, American II and Northstar Manager made pro-rata equity contributions in Northstar Spectrum. As of October 1, 2015, the total equity contributions from American II and Northstar Manager to Northstar Spectrum were approximately $750 million and $133 million, respectively. As of October 1, 2015, the total loans from American II to Northstar Wireless under the Northstar Credit Agreement for payments to the FCC related to the Northstar Licenses were approximately $5.070 billion.

SNR Wireless is a wholly-owned subsidiary of SNR HoldCo. Through American III, we own an 85% non-controlling interest in SNR HoldCo. SNR Wireless Management, LLC ("SNR Management") owns a 15% controlling interest in, and is the sole manager of, SNR HoldCo. SNR HoldCo is governed by a limited liability company agreement by and between American III and SNR Management (the "SNR HoldCo LLC Agreement"). Pursuant to the SNR HoldCo LLC Agreement, American III and SNR Management made pro-rata equity contributions in SNR HoldCo. As of October 1, 2015, the total equity contributions from American III and SNR Management to SNR HoldCo were approximately $524 million and $93 million, respectively. As of October 1, 2015, the total loans from American III to SNR Wireless under the SNR Credit Agreement for payments to the FCC related to the SNR Licenses were approximately $3.847 billion.

After Northstar Wireless and SNR Wireless satisfied their respective payments to the FCC on October 1, 2015 for the Northstar Licenses and the SNR Licenses, and the Northstar Interim Payment and the SNR Interim Payment (which included an additional bid withdrawal payment), our total non-controlling debt and equity investments in the Northstar Entities and the SNR Entities for payments to the FCC related to the AWS-3 Licenses were approximately $10.191 billion. Under the applicable accounting guidance in ASC 810, Northstar Spectrum and SNR HoldCo are considered variable interest entities and, based on the characteristics of the structure of these entities and in accordance with the applicable accounting guidance, we have consolidated these entities into our financial statements beginning in the fourth quarter 2014. See Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

On October 27, 2015, the FCC granted the Northstar Licenses to Northstar Wireless and the SNR Licenses to SNR Wireless, respectively, which are recorded in “FCC authorizations” on our Consolidated Balance Sheets. The AWS-3 Licenses are subject to certain interim and final build-out requirements. By October 2021, Northstar Wireless and SNR Wireless must provide reliable signal coverage and offer service to at least 40% of the population in each area covered by an individual AWS-3 License (the “AWS-3 Interim Build-Out Requirement”). By October 2027, Northstar Wireless and SNR Wireless must provide reliable signal coverage and offer service to at least 75% of the population in each area covered by an individual AWS-3 License (the “AWS-3 Final Build-Out Requirement”). If the AWS-3 Interim Build-Out Requirement is not met, the AWS-3 License term and the AWS-3 Final Build-Out Requirement may be accelerated by two years (from October 2027 to October 2025) for each AWS-3 License area in which Northstar Wireless and SNR Wireless do not meet the requirement. If the AWS-3 Final Build-Out Requirement is not met, the authorization for each AWS-3 License area in which Northstar Wireless and SNR Wireless do not meet the requirement may terminate.

In addition, on September 23, 2016, the United States District Court for the District of Columbia unsealed a qui tam complaint that was filed by Vermont National Telephone Company (“Vermont National”) against us; our wholly-owned subsidiaries, American AWS-3 Wireless I L.L.C., American II, American III, and DISH Wireless Holding L.L.C.; Charles W. Ergen (our Chairman and Chief Executive Officer) and Cantey M. Ergen (a member of our board of directors); Northstar Wireless; Northstar Spectrum; Northstar Manager; SNR Wireless; SNR HoldCo; SNR Management; and certain other parties. See “ *Contingencies – Litigation – Vermont National Telephone Company”* in Note 14 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

We may need to make significant additional loans to the Northstar Entities and to the SNR Entities, or they may need to partner with others, so that the Northstar Entities and the SNR Entities may commercialize, build-out and integrate the Northstar Licenses and the SNR Licenses, and comply with regulations applicable to the Northstar Licenses and the SNR Licenses. Depending upon the nature and scope of such commercialization, build-out, integration efforts, and regulatory compliance, any such loans or partnerships could vary significantly. We may need to raise significant additional capital in the future, which may not be available on acceptable terms or at all, to make further investments in the Northstar Entities and the SNR Entities. There can be no assurance that we will be able to obtain a profitable return on our non-controlling investments in the Northstar Entities and the SNR Entities. See “ *We face certain risks related to our non-controlling investments in the Northstar Entities and the SNR Entities, which may have a material adverse effect on our business, results of operations and financial condition”* below for further information.

Impairment of Assets

Furthermore, the fair values of wireless spectrum licenses and related assets may vary significantly in the future. In particular, valuation swings could occur if:

- consolidation in the wireless industry allows or requires wireless carriers to sell significant portions of their wireless spectrum holdings, which could in turn reduce the value of our spectrum holdings;
- a sale of spectrum by one or more wireless providers occurs;
- the FCC pursues certain policies designed to increase the number of wireless spectrum licenses available in each of our markets; or
- the FCC conducts additional wireless spectrum auctions.

If the fair value of our wireless spectrum licenses were to decline significantly, the value of these licenses could be subject to impairment charges. We assess potential impairments to our indefinite-lived intangible assets annually or more often if indicators of impairment arise to determine whether there is evidence that indicate an impairment condition may exist.

We capitalize our interest expense associated with the acquisition or construction of certain assets, including, among other things, our wireless spectrum licenses. As the carrying amount of these licenses is significant compared to the carrying value of our long-term debt, a substantial portion of our interest expense is capitalized. This capitalized interest increases the carrying amount of these licenses for purposes of impairment testing, under which we consider whether it is more likely than not that the fair value of these licenses exceeds the carrying amount of these licenses. An increase in the carrying amount of these licenses combined with other changes in circumstances and/or market conditions could result in an increased risk of an impairment of these licenses in the future.

We face certain risks related to our non-controlling investments in the Northstar Entities and the SNR Entities, which may have a material adverse effect on our business, results of operations and financial condition.

In addition to the risks described in *"Item 1A. Risk Factors —Acquisition and Capital Structure Risks —We have made substantial investments to acquire certain wireless spectrum licenses and other related assets. In addition, we have made substantial non-controlling investments in the Northstar Entities and the SNR Entities related to AWS-3 wireless spectrum licenses"* in this Annual Report on Form 10-K, we face certain other risks related to our non-controlling investments in the Northstar Entities and the SNR Entities, including, among others, the risks described below. Any of the following risks, among others, may have a material adverse effect on our business, results of operations and financial condition.

On October 27, 2015, the FCC granted the Northstar Licenses to Northstar Wireless and the SNR Licenses to SNR Wireless, respectively. We do not own or control the Northstar Licenses or the SNR Licenses nor do we control the Northstar Entities or the SNR Entities. We do not have a right to require Northstar Manager or SNR Management to sell their respective ownership interests in Northstar Spectrum and SNR Holdco to us. Northstar Manager, as the sole manager of Northstar Spectrum, and SNR Management, as the sole manager of SNR Holdco, will have the exclusive right and power to manage, operate and control Northstar Spectrum and SNR Holdco, respectively, subject to certain limited protective provisions for the benefit of American II and American III, respectively. Northstar Manager and SNR Management will have the ability, but not the obligation, to require Northstar Spectrum and SNR Holdco, respectively, to purchase Northstar Manager's and SNR Management's ownership interests in those respective entities after the fifth anniversary of the grant date of the Northstar Licenses and the SNR Licenses (and in certain circumstances prior to the fifth anniversary of the grant date of the Northstar Licenses and the SNR Licenses). Thus, we cannot be certain that the Northstar Licenses or the SNR Licenses will be developed in a manner fully consistent with our current or future business plans.

Each of Northstar Wireless and SNR Wireless applied to receive bidding credits of 25% as designated entities under applicable FCC rules. The FCC implemented rules and policies governing the designated entity program that are intended to ensure that qualifying designated entities are not controlled by operators or investors that do not meet certain qualification tests. Qualification is also subject to challenge in *qui tam* lawsuits filed by private parties alleging that participants have defrauded the government in which the person bringing the suit may share in any recovery by the government. Furthermore, litigation surrounding designated entity structures, increased regulatory scrutiny or third party or government lawsuits with respect to our non-controlling investments in the Northstar Entities and the SNR Entities could result in fines, and in certain cases, license revocation and/or criminal penalties, which could have a material adverse effect on our business, financial condition or results of operations.

On August 18, 2015, the FCC released the Order in which the FCC determined, among other things, that DISH Network has a controlling interest in, and is an affiliate of, Northstar Wireless and SNR Wireless, and therefore DISH Network's revenues should be attributed to them, which in turn makes Northstar Wireless and SNR Wireless ineligible to receive the Bidding Credit Amounts (approximately $1.961 billion for Northstar Wireless and $1.370 billion for SNR Wireless). Each of Northstar Wireless and SNR Wireless has filed a notice of appeal and petition for review of the Order with the United States Court of Appeals for the District of Columbia, challenging, among other things, the FCC's determination that they are ineligible to receive the Bidding Credit Amounts. Oral arguments were presented to the Court on September 26, 2016. We cannot predict with any degree of certainty the timing or outcome of these proceedings. See " *We have made substantial investments to acquire certain wireless spectrum licenses and other related assets. In addition, we have made substantial non-controlling investments in the Northstar Entities and the SNR Entities related to AWS-3 wireless spectrum licenses* " above for further information.

In addition, on September 23, 2016, the United States District Court for the District of Columbia unsealed a qui tam complaint that was filed by Vermont National against us; our wholly-owned subsidiaries, American AWS-3 Wireless I L.L.C., American II, American III, and DISH Wireless Holding L.L.C.; Charles W. Ergen (our Chairman and Chief Executive Officer) and Cantey M. Ergen (a member of our board of directors); Northstar Wireless; Northstar Spectrum; Northstar Manager; SNR Wireless; SNR HoldCo; SNR Management; and certain other parties. See " *Contingencies – Litigation – Vermont National Telephone Company"* in Note 14 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

We may need to make significant additional loans to the Northstar Entities and the SNR Entities, or they may need to partner with others, so that the Northstar Entities and the SNR Entities may commercialize, build-out and integrate the Northstar Licenses and the SNR Licenses, and comply with regulations applicable to the Northstar Licenses and the SNR Licenses. Depending upon the nature and scope of such commercialization, build-out, integration efforts, and regulatory compliance, any such loans or partnerships could vary significantly. We may need to raise significant additional capital in the future, which may not be available on acceptable terms or at all, to make further investments in the Northstar Entities and the SNR Entities. There can be no assurance that we will be able to obtain a profitable return on our non-controlling investments in the Northstar Entities and the SNR Entities.

To the extent that we commercialize our wireless spectrum licenses, we will face certain risks entering and competing in the wireless services industry and operating a wireless services business.

We have made substantial investments to acquire certain wireless spectrum licenses and related assets. We will need to make significant additional investments or partner with others to, among other things, commercialize, build-out, and integrate these licenses and related assets, and any additional acquired licenses and related assets; and comply with regulations applicable to such licenses. Depending on the nature and scope of such commercialization, build-out, integration efforts, and regulatory compliance, any such investments or partnerships could vary significantly. We may also determine that additional wireless spectrum licenses may be required to commercialize our wireless business and to compete with other wireless service providers. For example, on February 10, 2016, we filed an application with the FCC to potentially participate as a forward auction bidder in Auction 1000. On July 15, 2016, the FCC announced that a subsidiary of DISH Network and 61 other applicants were qualified to participate in the forward auction. The FCC determined that bidding in Auction 1000 will be "anonymous," which means that prior to and during the course of the auction, the FCC will not make public any information about a specific applicant's upfront deposits or its bids. In addition, FCC rules restrict information that applicants may disclose about their participation in Auction 1000. See " *We have made substantial investments to acquire certain wireless spectrum licenses and other related assets. In addition, we have made substantial non-controlling investments in the Northstar Entities and the SNR Entities related to AWS-3 wireless spectrum licenses"* above for further information. We may need to raise significant additional capital in the future to fund the efforts described above, which may not be available on acceptable terms or at all. There can be no assurance that we will be able to develop and implement a business model that will realize a return on these wireless spectrum licenses or that we will be able to profitably deploy the assets represented by these wireless spectrum licenses, which may affect the carrying amount of these assets and our future financial condition or results of operations.

To the extent we commercialize our wireless spectrum licenses and enter the wireless services industry, a wireless services business presents certain risks. Any of the following risks, among others, may have a material adverse effect on our future business, results of operations and financial condition.

- ***The wireless services industry is competitive.*** We have limited experience in the wireless services industry, which is a competitive industry, with increasing customer demands for data services that require increasing capital resources to maintain a robust network. The wireless services industry has incumbent and established competitors such as Verizon, AT&T, T-Mobile USA Inc. ("T-Mobile") and Sprint Corporation ("Sprint"), with substantial market share. Some of these companies have greater financial, marketing and other resources than us, and have existing cost and operational advantages that we lack. Market saturation is expected to continue to cause the wireless services industry's customer growth rate to moderate in comparison to historical growth rates, leading to increased competition for customers. As the industry matures, competitors increasingly must seek to attract a greater proportion of new subscribers from each other's existing subscriber bases rather than from first-time purchasers of wireless services. Furthermore, the cost of attracting a new customer is generally higher than the cost associated with retaining an existing customer. In addition, we may face increasing competition from wireless telecommunications providers who offer mobile video offerings. Wireless mobile video offerings have become more prevalent in the marketplace as wireless telecommunications providers have expanded the fourth generation of wireless communications. In July 2015, AT&T completed its acquisition of DirecTV, our direct competitor and the largest satellite TV provider in the U.S., which has recently launched an OTT service, DirecTV Now, that competes directly with our Sling branded pay-TV services. As a result of this acquisition, DirecTV, among other things, has increased access to capital, access to AT&T's nationwide platform for wireless mobile video, and the ability to more seamlessly bundle its video services with AT&T's broadband Internet access and wireless services. The combined company may be able to, among other things, pressure third-party content owners and programmers to withhold online rights from us; utilize its increased leverage over third-party content owners and programmers to reduce the price it pays for programming at the expense of other MVPDs, including us; thwart our entry into the wireless market, by, among other things, refusing to enter into data roaming agreements with us; foreclose or degrade our online video offerings at various points in the broadband pipe; and impose data caps on consumers who access our online video offerings. In addition, in October 2016, AT&T announced its pending acquisition of Time Warner. If the proposed transaction ultimately is completed, the addition of Time Warner's media holdings, which include content, such as HBO, TBS, TNT, CNN, and movies, would, among other things, provide the combined company increased scale and leverage in the converging video, mobile, and broadband industries. For example, AT&T's current zero rating practice may give an unfair advantage to AT&T's own video content, which currently includes, among others, DirecTV services on mobile devices.

- ***Our ability to compete effectively would be dependent on a number of factors.*** Our ability to compete effectively would depend on, among other things, our network quality, capacity and coverage; the pricing of our products and services; the quality of customer service; our development of new and enhanced products and services; the reach and quality of our sales and distribution channels; our ability to predict and adapt to future changes in technologies and changes in consumer demands; and capital resources. It would also depend on how successfully we anticipate and respond to various competitive factors affecting the industry, including, among others, new technologies and business models, products and services that may be introduced by competitors, changes in consumer preferences, the demand for and usage of data, video and other voice and non-voice services, demographic trends, economic conditions, and discount pricing and other strategies that may be implemented by competitors. It may be difficult for us to differentiate our products and services from other competitors in the industry, which may limit our ability to attract customers. Our success also may depend on our ability to access and deploy adequate spectrum, deploy new technologies and offer attractive services to customers. For example, we may not be able to obtain and offer certain technologies or features that are subject to competitor patents or other exclusive arrangements.

- ***We would depend on third parties to provide us with infrastructure and products and services.*** We would depend on various key suppliers and vendors to provide us, directly or through other suppliers, with infrastructure, equipment and services, such as switch and network equipment, handsets and other devices and equipment that we would need in order to operate a wireless services business and provide products and services to our customers. For example, handset and other device suppliers often rely on one vendor for the manufacture and supply of critical components, such as chipsets, used in their devices. If these suppliers or vendors fail to provide equipment or services on a timely basis or fail to meet performance expectations, we may be unable to provide products and services as and when expected by our customers. Any difficulties experienced with these suppliers and vendors could result in additional expense and/or delays in introducing our wireless services. Our efforts would involve significant expense and require strategic management decisions on, and timely implementation of, equipment choices, network deployment and management, and service offerings. In addition, these suppliers and vendors may also be subject to litigation with respect to technology on which we would depend, including litigation involving claims of patent infringement.

- ***Wireless services and our wireless spectrum licenses are subject to government regulation.*** Wireless services and our wireless spectrum licenses are subject to regulation by the FCC and other federal, state and local, as well as international, governmental authorities. These governmental authorities could adopt regulations or take other actions that would adversely affect our business prospects, making it more difficult and/or expensive to commercialize our wireless spectrum licenses or acquire additional licenses. The licensing, construction, operation, sale and interconnection arrangements of wireless telecommunications systems are regulated by the FCC and, depending on the jurisdiction, other federal and international, state and local regulatory agencies. In particular, the FCC imposes significant regulation on licensees of wireless spectrum with respect to how radio spectrum is used by licensees, the nature of the services that licensees may offer and how the services may be offered, and resolution of issues of interference between spectrum bands. The FCC grants wireless licenses for terms of generally ten years that are subject to renewal or revocation. There can be no assurances that our wireless spectrum licenses will be renewed or that we will be able to obtain additional licenses. Failure to comply with FCC requirements in a given license area could result in revocation of the license for that license area. In addition, the FCC uses its transactional "spectrum screen" to identify prospective wireless transactions that may require additional competitive scrutiny. If a proposed transaction would exceed the spectrum screen threshold, the FCC undertakes a more detailed analysis of relevant market conditions in the impacted geographic areas to determine whether the transaction would reduce competition without offsetting public benefits. If a proposed spectrum acquisition exceeds the spectrum screen trigger such additional review could extend the duration of the regulatory review process and there can be no assurance that such proposed spectrum acquisition would ultimately be completed in whole or in part. For further information related to our wireless spectrum licenses, including build-out requirements, see other Risk Factors above.

We may pursue acquisitions and other strategic transactions to complement or expand our business that may not be successful, and we may lose up to the entire value of our investment in these acquisitions and transactions.

Our future success may depend on opportunities to buy other businesses or technologies that could complement, enhance or expand our current businesses or products or that might otherwise offer us growth opportunities. To pursue this strategy successfully, we must identify attractive acquisition or investment opportunities and successfully complete transactions, some of which may be large and complex. We may not be able to identify or complete attractive acquisition or investment opportunities due to, among other things, the intense competition for these transactions. If we are not able to identify and complete such acquisition or investment opportunities, our future results of operations and financial condition may be adversely affected.

We may be unable to obtain in the anticipated timeframe, or at all, any regulatory approvals required to complete proposed acquisitions and other strategic transactions. Furthermore, the conditions imposed for obtaining any necessary approvals could delay the completion of such transactions for a significant period of time or prevent them from occurring at all. We may not be able to complete such transactions and such transactions, if executed, pose significant risks and could have a negative effect on our operations. Any transactions that we are able to identify and complete may involve a number of risks, including:

- the diversion of our management's attention from our existing businesses to integrate the operations and personnel of the acquired or combined business or joint venture;
- possible adverse effects on our operating results during the integration process;
- a high degree of risk inherent in these transactions, which could become substantial over time, and higher exposure to significant financial losses if the underlying ventures are not successful;
- our possible inability to achieve the intended objectives of the transaction; and
- the risks associated with complying with regulations applicable to the acquired business, which may cause us to incur substantial expenses.

In addition, we may not be able to successfully or profitably integrate, operate, maintain and manage our newly acquired operations or employees. We may not be able to maintain uniform standards, controls, procedures and policies, and this may lead to operational inefficiencies. In addition, the integration process may strain our financial and managerial controls and reporting systems and procedures.

New acquisitions, joint ventures and other transactions may require the commitment of significant capital that would otherwise be directed to investments in our existing business. To pursue acquisitions and other strategic transactions, we may need to raise additional capital in the future, which may not be available on acceptable terms or at all.

In addition to committing capital to complete the acquisitions, substantial capital may be required to operate the acquired businesses following their acquisition. These acquisitions may result in significant financial losses if the intended objectives of the transactions are not achieved. Some of the businesses acquired by us have experienced significant operating and financial challenges in their recent history, which in some cases resulted in these businesses commencing bankruptcy proceedings prior to our acquisition. We may acquire similar businesses in the future. There is no assurance that we will be able to successfully address the challenges and risks encountered by these businesses following their acquisition. If we are unable to successfully address these challenges and risks, our business, financial condition and/or results of operations may suffer.

We may need additional capital, which may not be available on acceptable terms or at all, to continue investing in our business and to finance acquisitions and other strategic transactions.

We may need to raise significant additional capital in the future, which may not be available on acceptable terms or at all, to among other things, continue investing in our business, construct and launch new satellites, and to pursue acquisitions and other strategic transactions. Weakness in the equity markets could make it difficult for us to raise equity financing without incurring substantial dilution to our existing shareholders. Adverse changes in the credit markets, including rising interest rates, could increase our borrowing costs and/or make it more difficult for us to obtain financing for our operations or refinance existing indebtedness. In addition, economic weakness or weak results of operations may limit our ability to generate sufficient internal cash to fund investments, capital expenditures, acquisitions and other strategic transactions, as well as to fund ongoing operations and service our debt. Furthermore, our borrowing costs can be affected by short and long-term debt ratings assigned by independent rating agencies, which are based, in significant part, on our performance as measured by their credit metrics. A decrease in these ratings would likely increase our cost of borrowing and/or make it more difficult for us to obtain financing. A severe disruption in the global financial markets could impact some of the financial institutions with which we do business, and such instability could also affect our access to financing. As a result, these conditions make it difficult for us to accurately forecast and plan future business activities because we may not have access to funding sources necessary for us to pursue organic and strategic business development opportunities.

See *"We have made substantial investments to acquire certain wireless spectrum licenses and other related assets. In addition, we have made substantial non-controlling investments in the Northstar Entities and the SNR Entities related to AWS-3 wireless spectrum licenses"* above for further information.

We have substantial debt outstanding and may incur additional debt.

As of December 31, 2016, our total long-term debt and capital lease obligations, including the debt of our subsidiaries, was $16.479 billion. Our debt levels could have significant consequences, including:

- making it more difficult to satisfy our obligations;
- a dilutive effect on our outstanding equity capital or future earnings;
- increasing our vulnerability to general adverse economic conditions, including changes in interest rates;
- requiring us to devote a substantial portion of our cash to make interest and principal payments on our debt, thereby reducing the amount of cash available for other purposes. As a result, we would have limited financial and operating flexibility in responding to changing economic and competitive conditions;
- limiting our ability to raise additional debt because it may be more difficult for us to obtain debt financing on attractive terms; and
- placing us at a disadvantage compared to our competitors that are less leveraged.

In addition, we may incur substantial additional debt in the future. The terms of the indentures relating to our senior notes permit us to incur additional debt. If new debt is added to our current debt levels, the risks we now face could intensify.

The conditional conversion features of our 3 3/8% Convertible Notes due 2026, if triggered, may adversely affect our financial condition.

In the event the conditional conversion features of the Convertible Notes due 2026 are triggered, holders of the Convertible Notes due 2026 will be entitled to convert the Convertible Notes due 2026 at any time during specified periods at their option. If one or more holders elect to convert their Convertible Notes due 2026, unless we elect to satisfy our conversion obligation by delivering solely shares of our Class A common stock, we would be required to make cash payments to satisfy all or a portion of our conversion obligation based on the conversion rate, which could adversely affect our liquidity. In addition, even if holders do not elect to convert their Convertible Notes due 2026, we could be required under applicable accounting rules to reclassify all or a portion of the outstanding principal of the Convertible Notes due 2026 as a current rather than long-term liability, which could result in a material reduction of our net working capital.

The convertible note hedge and warrant transactions that we entered into in connection with the offering of the Convertible Notes due 2026 may affect the value of the Convertible Notes due 2026 and our Class A common stock.

In connection with the offering of the Convertible Notes due 2026, we entered into convertible note hedge transactions with certain option counterparties (each an "option counterparty"). The convertible note hedge transactions are expected generally to reduce the potential dilution upon conversion of the Convertible Notes due 2026 and/or offset any cash payments we are required to make in excess of the principal amount of converted Convertible Notes due 2026, as the case may be. We also entered into warrant transactions with each option counterparty. The warrant transactions could separately have a dilutive effect on our Class A common stock to the extent that the market price per share of our Class A common stock exceeds the strike price of the warrants, unless we elect to settle the warrants in cash. In connection with establishing its initial hedge of the convertible note hedge and warrant transactions, each option counterparty or an affiliate thereof may have entered into various derivative transactions with respect to our Class A common stock concurrently with or shortly after the pricing of the Convertible Notes due 2026. This activity could increase (or reduce the size of any decrease in) the market price of our Class A common stock or the Convertible Notes due 2026 at that time. In addition, each option counterparty or an affiliate thereof may modify its hedge position by entering into or unwinding various derivatives with respect to our Class A common stock and/or purchasing or selling our Class A common stock or other securities of ours in secondary market transactions prior to the maturity of the Convertible Notes due 2026 (and is likely to do so during any observation period related to a conversion of the Convertible Notes due 2026). This activity could also cause or avoid an increase or a decrease in the market price of our Class A common stock or the Convertible Notes due 2026. In addition, if any such convertible note hedge and warrant transactions fail to become effective, each option counterparty may unwind its hedge position with respect to our Class A common stock, which could adversely affect the value of our Class A common stock and the value of the Convertible Notes due 2026.

We are subject to counterparty risk with respect to the convertible note hedge transactions.

Each option counterparty to the convertible note hedge transactions is a financial institution, and we will be subject to the risk that it might default under the convertible note hedge transaction. Our exposure to the credit risk of an option counterparty will not be secured by any collateral. Global economic conditions have from time to time resulted in the actual or perceived failure or financial difficulties of many financial institutions, including the bankruptcy filing by Lehman Brothers Holdings Inc. and its various affiliates. If an option counterparty becomes subject to insolvency proceedings, we will become an unsecured creditor in those proceedings with a claim equal to our exposure at that time under our transactions with the option counterparty. Our exposure will depend on many factors but, generally, the increase in our exposure will be correlated to the increase in the market price and in the volatility of our Class A common stock. In addition, upon a default by an option counterparty, we may suffer adverse tax consequences and more dilution than we currently anticipate with respect to our Class A common stock. We can provide no assurances as to the financial stability or viability of any option counterparty.

From time to time a portion of our investment portfolio may be invested in securities that have limited liquidity and may not be immediately accessible to support our financing needs, including investments in public companies that are highly speculative and have experienced and continue to experience volatility.

From time to time a portion of our investment portfolio may be invested in strategic investments, and as a result, a portion of our portfolio may have restricted liquidity. If the credit ratings of these securities deteriorate or there is a lack of liquidity in the marketplace, we may be required to record impairment charges. Moreover, the uncertainty of domestic and global financial markets can greatly affect the volatility and value of our marketable investment securities. In addition, a portion of our investment portfolio may include strategic and financial investments in debt and equity securities of public companies that are highly speculative and experience volatility. Typically, these investments are concentrated in a small number of companies. The fair value of these investments can be significantly impacted by the risk of adverse changes in securities markets generally, as well as risks related to the performance of the companies whose securities we have invested in, risks associated with specific industries, and other factors. These investments are subject to significant fluctuations in fair value due to the volatility of the securities markets and of the underlying businesses. The concentration of these investments as a percentage of our overall investment portfolio fluctuates from time to time based on, among other things, the size of our investment portfolio and our ability to liquidate these investments. In addition, because our portfolio may be concentrated in a limited number of companies, we may experience a significant loss if any of these companies, among other things, defaults on its obligations, performs poorly, does not generate adequate cash flow to fund its operations, is unable to obtain necessary financing on acceptable terms, or at all, or files for bankruptcy, or if the sectors in which these companies operate experience a market downturn. To the extent we require access to funds, we may need to sell these securities under unfavorable market conditions, record impairment charges and fall short of our financing needs.

It may be difficult for a third party to acquire us, even if doing so may be beneficial to our shareholders, because of our ownership structure.

Certain provisions of our articles of incorporation and bylaws may discourage, delay or prevent a change in control of our company that a shareholder may consider favorable. These provisions include the following:

- a capital structure with multiple classes of common stock: a Class A that entitles the holders to one vote per share, a Class B that entitles the holders to ten votes per share, a Class C that entitles the holders to one vote per share, except upon a change in control of our company in which case the holders of Class C are entitled to ten votes per share;
- a provision that authorizes the issuance of "blank check" preferred stock, which could be issued by our Board of Directors to increase the number of outstanding shares and thwart a takeover attempt;
- a provision limiting who may call special meetings of shareholders; and
- a provision establishing advance notice requirements for nominations of candidates for election to our Board of Directors or for proposing matters that can be acted upon by shareholders at shareholder meetings.

As discussed below, Charles W. Ergen, our Chairman and Chief Executive Officer, controls approximately 78.5% of the total voting power of our company. Such control by Mr. Ergen may make it impractical for any third party to effect a change in control of our company. In addition, pursuant to our articles of incorporation we have a significant amount of authorized and unissued stock which would allow our Board of Directors to issue shares to persons friendly to current management, thereby protecting the continuity of its management, or which could be used to dilute the stock ownership of persons seeking to obtain control of us.

We are controlled by one principal stockholder who is also our Chairman and Chief Executive Officer.

Charles W. Ergen, our Chairman and Chief Executive Officer, owns approximately 44.7% of our total equity securities (assuming conversion of all Class B Common Stock into Class A Common Stock) and beneficially owns approximately 48.1% of our total equity securities (assuming conversion of only the Class B Common Stock held by Mr. Ergen into Class A Common Stock). Under either a beneficial or equity calculation method, Mr. Ergen controls approximately 78.5% of the total voting power. Mr. Ergen's beneficial ownership of shares of Class A Common Stock excludes 33,790,620 shares of Class A Common Stock issuable upon conversion of shares of Class B Common Stock currently held by certain trusts established by Mr. Ergen for the benefit of his family. These trusts own approximately 7.3% of our total equity securities (assuming conversion of all Class B Common Stock into Class A Common Stock) and beneficially own approximately 13.0% of our total equity securities (assuming conversion of only the Class B Common Stock held by such trusts into Class A Common Stock). Under either a beneficial or equity calculation method, these trusts possess approximately 12.9% of the total voting power. Through his voting power, Mr. Ergen has the ability to elect a majority of our directors and to control all other matters requiring the approval of our stockholders. As a result, DISH Network is a "controlled company" as defined in the Nasdaq listing rules and is, therefore, not subject to Nasdaq requirements that would otherwise require us to have: (i) a majority of independent directors; (ii) a nominating committee composed solely of independent directors; (iii) compensation of our executive officers determined by a majority of the independent directors or a compensation committee composed solely of independent directors; and (iv) director nominees selected, or recommended for the Board's selection, either by a majority of the independent directors or a nominating committee composed solely of independent directors. Mr. Ergen is also the principal stockholder and Chairman of EchoStar.

Legal and Regulatory Risks

A ruling in the Do Not Call litigation requiring us to pay substantial civil penalties and/or damages and/or enjoining us, whether acting directly or indirectly through authorized telemarketers or independent third-party retailers, from certain activities could have a material adverse effect on our results of operations, financial condition and cash flow.

On March 25, 2009, our wholly-owned subsidiary DISH Network L.L.C. was sued in a civil action by the United States Attorney General and several states in the United States District Court for the Central District of Illinois (the "FTC Action"), alleging violations of the Telephone Consumer Protection Act ("TCPA") and the Telemarketing Sales Rule ("TSR"), as well as analogous state statutes and state consumer protection laws. The plaintiffs allege that we, directly and through certain independent third-party retailers and their affiliates, committed certain telemarketing violations. On December 23, 2013, the plaintiffs filed a motion for summary judgment, which indicated for the first time that the state plaintiffs were seeking civil penalties and damages of approximately $270 million and that the federal plaintiff was seeking an unspecified amount of civil penalties (which could substantially exceed the civil penalties and damages being sought by the state plaintiffs). The plaintiffs were also seeking injunctive relief that if granted would, among other things, enjoin DISH Network L.L.C., whether acting directly or indirectly through authorized telemarketers or independent third-party retailers, from placing any outbound telemarketing calls to market or promote its goods or services for five years, and enjoin DISH Network L.L.C. from accepting activations or sales from certain existing independent third-party retailers and from certain new independent third-party retailers, except under certain circumstances. We also filed a motion for summary judgment, seeking dismissal of all claims. On December 12, 2014, the Court issued its opinion with respect to the parties' summary judgment motions. The Court found that DISH Network L.L.C. is entitled to partial summary judgment with respect to one claim in the action. In addition, the Court found that the plaintiffs are entitled to partial summary judgment with respect to ten claims in the action, which includes, among other things, findings by the Court establishing DISH Network L.L.C.'s liability for a substantial amount of the alleged outbound telemarketing calls by DISH Network L.L.C. and certain of its independent third-party retailers that were the subject of the plaintiffs' motion. The Court did not issue any injunctive relief and did not make any determination on civil penalties or damages, ruling instead that the scope of any injunctive relief and the amount of any civil penalties or damages are questions for trial.

In pre-trial disclosures, the federal plaintiff indicated that it intended to seek up to $900 million in alleged civil penalties, and the state plaintiffs indicated that they intended to seek as much as $23.5 billion in alleged civil penalties and damages. The plaintiffs also modified their request for injunctive relief. Their requested injunction, if granted, would enjoin DISH Network L.L.C. from placing outbound telemarketing calls unless and until: (i) DISH Network L.L.C. hires a third-party consulting organization to perform a review of its call center operations; (ii) such third-party consulting organization submits a telemarketing compliance plan to the Court and the federal plaintiff; (iii) the Court holds a hearing on the adequacy of the plan; (iv) if the Court approves the plan, DISH Network L.L.C. implements the plan and verifies to the Court that it has implemented the plan; and (v) the Court issues an order permitting DISH Network L.L.C. to resume placing outbound telemarketing calls. The plaintiffs' modified request for injunctive relief, if granted, would also enjoin DISH Network L.L.C. from accepting customer orders solicited by certain independent third-party retailers unless and until a similar third-party review and Court approval process was followed with respect to the telemarketing activities of its independent third-party retailer base to ensure compliance with the TSR.

The first phase of the bench trial took place January 19, 2016 through February 11, 2016. In closing briefs, the federal plaintiff indicated that it still is seeking $900 million in alleged civil penalties; the California state plaintiff indicated that it is seeking $100 million in alleged civil penalties and damages for its state law claims (in addition to any amounts sought on its federal law claims); the Ohio state plaintiff indicated that it is seeking approximately $10 million in alleged civil penalties and damages for its state law claims (in addition to any amounts sought on its federal law claims); and the Illinois and North Carolina state plaintiffs did not state the specific alleged civil penalties and damages that they are seeking; but the state plaintiffs have taken the general position that any damages award less than $1.0 billion (presumably for both federal and state law claims) would not raise constitutional concerns. Under the Eighth Amendment of the U.S. Constitution, excessive fines may not be imposed.

On October 3, 2016, the plaintiffs further modified their request for injunctive relief and are now seeking, among other things, to enjoin DISH Network L.L.C., whether acting directly or indirectly through authorized telemarketers or independent third-party retailers, from placing any outbound telemarketing calls to market or promote its goods or services for five years, and enjoin DISH Network L.L.C. from accepting activations or sales from some or all existing independent third-party retailers. The second phase of the bench trial, which commenced on October 25, 2016 and concluded on November 2, 2016, covered the plaintiffs' requested injunctive relief, as well as certain evidence related to the state plaintiffs' claims.

We may also from time to time be subject to private civil litigation alleging telemarketing violations. For example, a portion of the alleged telemarketing violations by an independent third-party retailer at issue in the FTC Action are also the subject of a certified class action filed against DISH Network L.L.C. in the United States District Court for the Middle District of North Carolina (the "Krakauer Action"). Following a five-day trial, on January 19, 2017, a jury in that case found that the independent third-party retailer was acting as DISH Network L.L.C.'s agent when it made the 51,119 calls at issue in that case, and that class members are eligible to recover $400 in damages for each call made in violation of the TCPA. The plaintiff is also seeking enhanced damages under the TCPA for alleged willful or knowing violations. The Court will decide whether there were any willful or knowing violations, and the Court has discretion to increase the damages by up to three times for any such violations. The plaintiffs in the FTC Action have asserted that the jury verdict in the Krakauer Action preclusively establishes that the independent third-party retailer at issue in the Krakauer Action was acting as DISH Network L.L.C.'s agent when it made the calls at issue in the FTC Action, and is otherwise persuasive evidence that the other independent third-party retailers at issue in the FTC Action were acting as DISH Network's L.L.C.'s agents when they made their respective calls at issue in the FTC Action, that the alleged civil penalties being sought by the federal and state plaintiffs are reasonable, and that the calls made by DISH Network L.L.C. and independent third-party retailers at issue in the FTC Action were made to landline residential phones. We have opposed those assertions.

A ruling requiring us to pay substantial civil penalties and/or damages and/or enjoining us, whether acting directly or indirectly through authorized telemarketers or independent third-party retailers, from the activities described above could have a material adverse effect on our results of operations, financial condition and cash flow.

Our business depends on certain intellectual property rights and on not infringing the intellectual property rights of others.

We rely on our patents, copyrights, trademarks and trade secrets, as well as licenses and other agreements with our vendors and other parties, to use our technologies, conduct our operations and sell our products and services. Legal challenges to our intellectual property rights and claims of intellectual property infringement by third parties could require that we enter into royalty or licensing agreements on unfavorable terms, incur substantial monetary liability or be enjoined preliminarily or permanently from further use of the intellectual property in question or from the continuation of our business as currently conducted, which could require us to change our business practices or limit our ability to compete effectively or could have an adverse effect on our results of operations. Even if we believe any such challenges or claims are without merit, they can be time-consuming and costly to defend and divert management's attention and resources away from our business. Moreover, because of the rapid pace of technological change, we rely on technologies developed or TableOfContents licensed by third parties, and if we are unable to obtain or continue to obtain licenses from these third parties on reasonable terms, our business, financial condition and results of operations could be adversely affected.

In addition, we work with third parties such as vendors, contractors and suppliers for the development and manufacture of components that are integrated into our products and services, and our products and services may contain technologies provided to us by these third parties or other third parties. We may have little or no ability to determine in advance whether any such technology infringes the intellectual property rights of others. Our vendors, contractors and suppliers may not be required to indemnify us if a claim of infringement is asserted against us, or they may be required to indemnify us only up to a maximum amount, above which we would be responsible for any further costs or damages. Legal challenges to these intellectual property rights may impair our ability to use the products, services and technologies that we need in order to operate our business and may materially and adversely affect our business, financial condition and results of operations. Furthermore, our digital content offerings depend in part on effective digital rights management technology to control access to digital content. If the digital rights management technology that we use is compromised or otherwise malfunctions, content providers may be unwilling to provide access to their content. Changes in the copyright laws or how such laws may be interpreted could impact our ability to deliver content and provide certain features and functionality, particularly over the Internet.

We are, and may become, party to various lawsuits which, if adversely decided, could have a significant adverse impact on our business, particularly lawsuits regarding intellectual property.

We are, and may become, subject to various legal proceedings and claims which arise in the ordinary course of business, including among other things, disputes with programmers regarding fees. Many entities, including some of our competitors, have or may in the future obtain patents and other intellectual property rights that may cover or affect products or services related to those that we offer. In general, if a court determines that one or more of our products or services infringes on intellectual property held by others, we may be required to cease developing or marketing those products or services, to obtain licenses from the holders of the intellectual property at a material cost, or to redesign those products or services in such a way as to avoid infringing the intellectual property. If those intellectual property rights are held by a competitor, we may be unable to obtain the intellectual property at any price, which could adversely affect our competitive position. See " *Item 1. Business — Patents and Other Intellectual Property"* of this Annual Report on Form 10-K for further information.

We may not be aware of all intellectual property rights that our services or the products used in connection with our services may potentially infringe. In addition, patent applications in the United States are confidential until the Patent and Trademark Office either publishes the application or issues a patent (whichever arises first). Therefore, it is difficult to evaluate the extent to which our services or the products used in connection with our services may infringe claims contained in pending patent applications. Further, it is sometimes not possible to determine definitively whether a claim of infringement is valid.

Our ability to distribute video content via the Internet, including our Sling TV services, involves regulatory risk.

Certain of our programming agreements allow us to, among other things, deliver certain authenticated content via the Internet and/or deliver certain content through our Sling TV services, and we are increasingly distributing video content to our subscribers via the Internet and through our Sling TV services. The ability to continue this strategy may depend in part on the FCC's success in implementing rules prohibiting fixed and mobile broadband access providers, among other things, from blocking or throttling traffic, from paid privatization, and from unreasonably interfering with, or disadvantaging, consumers' or content providers' access to the Internet.

See *"Item 1. Business — Government Regulations — FCC Regulations Governing our Pay-TV Operations — Open Internet"* of this Annual Report on Form 10-K for further information.

Changes in the Cable Act, and/or the rules of the FCC that implement the Cable Act, may limit our ability to access programming from cable-affiliated programmers at nondiscriminatory rates .

We purchase a large percentage of our programming from cable-affiliated programmers. Pursuant to the Cable Act, cable providers had been prohibited from entering into exclusive contracts with cable-affiliated programmers. The Cable Act directed that this prohibition expire after a certain period of time unless the FCC determined that the prohibition continued to be necessary. In October 2012, the FCC allowed this prohibition to expire. While the FCC has issued a Further Notice of Proposed Rulemaking aimed at serving some of the same objectives as the prohibition, there can be no assurances that such protections will be adopted or be as effective as the prohibition if they are adopted. In the event that this decision is reconsidered by the FCC or reviewed by a court of appeals, we cannot predict the timing or outcome of any subsequent FCC decision.

As a result of the expiration of this prohibition on exclusivity, we may be limited in our ability to obtain access at all, or on nondiscriminatory terms, to programming from programmers that are affiliated with cable system operators. In addition, any other changes in the Cable Act, and/or the FCC's rules that implement the Cable Act, that currently limit the ability of cable-affiliated programmers to discriminate against competing businesses such as ours, could adversely affect our ability to acquire cable-affiliated programming at all or to acquire programming on nondiscriminatory terms.

Furthermore, the FCC had imposed program access conditions on certain cable companies as a result of mergers, consolidations or affiliations with programmers. The expiration of the exclusivity prohibition in the Cable Act triggered the termination of certain program access conditions that the FCC had imposed on Liberty. In July 2012, similar program access conditions that had applied to Time Warner Cable, which was acquired by Charter in 2016, expired as previously scheduled. These developments may adversely affect our ability to obtain Liberty's and Charter's programming, or to obtain it on nondiscriminatory terms. In the case of certain types of programming affiliated with Comcast through its control of NBCUniversal, the prohibition on exclusivity is set to expire in January 2018, and we will not be able to rely on these protections beyond that date. Until that time, we have the right to subject the terms of access to NBCUniversal's programming to binding arbitration if we and the programmer cannot reach agreement on terms, subject to FCC review. There can be no assurance that this procedure will result in favorable terms for us.

In addition, affiliates of certain cable providers have denied us access to sports programming that they distribute to their cable systems terrestrially, rather than by satellite. The FCC has held that new denials of such service are unfair if they have the purpose or effect of significantly hindering us from providing programming to consumers. However, we cannot be certain that we can prevail in a complaint related to such programming and gain access to it. Our continuing failure to access such programming could materially and adversely affect our ability to compete in regions serviced by these cable providers.

The injunction against our retransmission of distant networks, which is currently waived, may be reinstated.

Pursuant to STELA, we obtained a waiver of a court injunction that previously prevented us from retransmitting certain distant network signals under a statutory copyright license. Because of that waiver, we may provide distant network signals to eligible subscribers. To qualify for that waiver, we are required to provide local service in all 210 local markets in the U.S. on an ongoing basis. This condition poses a significant strain on our capacity. Moreover, we may lose that waiver if we are found to have failed to provide local service in any of the 210 local markets. If we lose the waiver, the injunction could be reinstated. Furthermore, depending on the severity of the failure, we may also be subject to other sanctions, which may include, among other things, damages.

We are subject to significant regulatory oversight, and changes in applicable regulatory requirements, including any adoption or modification of laws or regulations relating to the Internet, could adversely affect our business.

Our operations, particularly our DBS operations and our wireless spectrum licenses, are subject to significant government regulation and oversight, primarily by the FCC and, to a certain extent, by Congress, other federal agencies and foreign, state and local authorities. Depending upon the circumstances, noncompliance with legislation or regulations promulgated by these authorities could result in the limitations on, or suspension or revocation of, our licenses or registrations, the termination or loss of contracts or the imposition of contractual damages, civil fines or criminal penalties, any of which could have a material adverse effect on our business, financial condition and results of operations. Furthermore, the recent change in the Administration and any government policy changes it may institute, which may be substantial, could increase regulatory uncertainty. The adoption or modification of laws or regulations relating to video programming, satellite services, wireless telecommunications, broadband, the Internet or other areas of our business could limit or otherwise adversely affect the manner in which we currently conduct our business, including our Sling TV services . In addition, the manner in which regulations or legislation in these areas, including the FCC's Open Internet rules, may be interpreted and enforced cannot be precisely determined, which in turn could have an adverse effect on our business, financial condition and results of operations. See regulatory disclosures under the caption " *Item 1. Business — Government Regulations"* of this Annual Report on Form 10-K for additional information.

Our business depends on FCC licenses that can expire or be revoked or modified and applications for FCC licenses that may not be granted.

If the FCC were to cancel, revoke, suspend, restrict, significantly condition, or fail to renew any of our licenses or authorizations, or fail to grant our applications for FCC licenses that we may file from time to time, it could have a material adverse effect on our business, financial condition and results of operations. Specifically, loss of a frequency authorization would reduce the amount of spectrum available to us, potentially reducing the amount of services available to our DISH branded pay-TV subscribers. The materiality of such a loss of authorizations would vary based upon, among other things, the location of the frequency used or the availability of replacement spectrum. In addition, Congress often considers and enacts legislation that affects us and FCC proceedings to implement the Communications Act and enforce its regulations are ongoing. We cannot predict the outcomes of these legislative or regulatory proceedings or their effect on our business.

We are subject to digital HD "carry-one, carry-all" requirements that cause capacity constraints.

To provide any full-power local broadcast signal in any market, we are required to retransmit all qualifying broadcast signals in that market ("carry-one, carry-all"), including the carriage of full-power broadcasters' HD signals in markets in which we elect to provide local channels in HD. The carriage of additional HD signals on our DISH branded pay-TV service could cause us to experience significant capacity constraints and prevent us from carrying additional popular national channels and/or carrying those national channels in HD.

Our business, investor confidence in our financial results and stock price may be adversely affected if our internal controls are not effective.

We periodically evaluate and test our internal control over financial reporting to satisfy the requirements of Section 404 of the Sarbanes-Oxley Act. Our management has concluded that our internal control over financial reporting was effective as of December 31, 2016. If in the future we are unable to report that our internal control over financial reporting is effective (or if our auditors do not agree with our assessment of the effectiveness of, or are unable to express an opinion on, our internal control over financial reporting), investors, customers and business partners could lose confidence in the accuracy of our financial reports, which could in turn have a material adverse effect on our business, investor confidence in our financial results may weaken, and our stock price may suffer.

We may face other risks described from time to time in periodic and current reports we file with the SEC.

Item 1B. UNRESOLVED STAFF COMMENT S

None.

Item 2. PROPERTIE S

The following table sets forth certain information concerning our principal properties related to our business segments.

Description/Use/Location	Segment(s) Using Property	Owned	Leased From EchoStar (1)	Leased From Other Third Party
Corporate headquarters, Englewood, Colorado	Pay-TV and Broadband/ Wireless		X	
Customer call center and general offices, Roseland, New Jersey	Pay-TV and Broadband			X
Customer call center, Alvin, Texas	Pay-TV and Broadband			X
Customer call center, Bluefield, West Virginia	Pay-TV and Broadband	X		
Customer call center, Christiansburg, Virginia	Pay-TV and Broadband	X		
Customer call center, College Point, New York	Pay-TV and Broadband			X
Customer call center, Harlingen, Texas	Pay-TV and Broadband	X		
Customer call center, Hilliard, Ohio	Pay-TV and Broadband			X
Customer call center, Littleton, Colorado	Pay-TV and Broadband		X	
Customer call center, Phoenix, Arizona	Pay-TV and Broadband			X
Customer call center, Thornton, Colorado	Pay-TV and Broadband	X		
Customer call center, Tulsa, Oklahoma	Pay-TV and Broadband			X
Customer call center, warehouse, service, and remanufacturing center, El Paso, Texas	Pay-TV and Broadband	X		
Service and remanufacturing center, Spartanburg, South Carolina	Pay-TV and Broadband			X
Warehouse and distribution center, Denver, Colorado	Pay-TV and Broadband			X
Warehouse and distribution center, Sacramento, California	Pay-TV and Broadband	X		
Warehouse and distribution center, Atlanta, Georgia	Pay-TV and Broadband			X
Warehouse, Denver, Colorado	Pay-TV and Broadband	X		

(1) See Note 18 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information on our Related Party Transactions with EchoStar.

In addition to the principal properties listed above, we operate numerous facilities for, among other things, our in-home service operations strategically located in regions throughout the United States. Furthermore, we own or lease capacity on 13 satellites, which are a major component of our DISH branded pay-TV service. See further information under " *Item 1. Business — Satellites* " in this Annual Report on Form 10-K.

Item 3. LEGAL PROCEEDING S

See Note 14 " *Commitments and Contingencies - Litigation* " in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for information regarding certain legal proceedings in which we are involved.

Item 4. MINE SAFETY DISCLOSURE S

Not applicable.

PART I I

Item 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIE S

Market Price of and Dividends on the Registrant's Common Equity and Related Stockholder Matters

Market Information . Our Class A common stock is quoted on the Nasdaq Global Select Market under the symbol "DISH." The high and low closing sale prices of our Class A common stock during 2016 and 2015 on the Nasdaq Global Select Market (as reported by Nasdaq) are set forth below.

2016	**High**	**Low**
First Quarter	$ 57.35	$ 39.71
Second Quarter	56.06	43.40
Third Quarter	55.04	48.84
Fourth Quarter	59.93	53.97

2015	**High**	**Low**
First Quarter	$ 78.31	$ 68.46
Second Quarter	75.51	65.92
Third Quarter	69.25	56.36
Fourth Quarter	65.07	57.16

As of February 13, 2017, there were approximately 7,272 holders of record of our Class A common stock, not including stockholders who beneficially own Class A common stock held in nominee or street name. As of February 13, 2017, 204,644,588 of the 238,435,208 outstanding shares of our Class B common stock were beneficially held by Charles W. Ergen, our Chairman and Chief Executive Officer, and the remaining 33,790,620 were held in trusts established by Mr. Ergen for the benefit of his family. There is currently no trading market for our Class B common stock.

Dividends . While we currently do not intend to declare dividends on our common stock, we may elect to do so from time to time. Payment of any future dividends will depend upon our earnings and capital requirements, restrictions in our debt facilities, and other factors the Board of Directors considers appropriate. We currently intend to retain our earnings, if any, to support future growth and expansion, although we may repurchase shares of our common stock from time to time. See further information under " *Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources* " in this Annual Report on Form 10-K.

Securities Authorized for Issuance Under Equity Compensation Plans . See " *Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters* " in this Annual Report on Form 10-K.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

The following table provides information regarding purchases of our Class A common stock made by us for the period from October 1, 2016 through December 31, 2016.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Approximate Dollar Value of Shares that May Yet be Purchased Under the Plans or Programs (1)
	(In thousands, except share data)			
October 1, 2016 - October 31, 2016	—	$ —	—	$ 1,000,000
November 1, 2016 - November 30, 2016	—	$ —	—	$ 1,000,000
December 1, 2016 - December 31, 2016	—	$ —	—	$ 1,000,000
Total	—	$ —	—	$ 1,000,000

(1) Our Board of Directors previously authorized stock repurchases of up to $1.0 billion of our outstanding Class A common stock through and including December 31, 2016. On November 2, 2016, our Board of Directors extended this authorization such that we are currently authorized to repurchase up to $1.0 billion of our outstanding Class A common stock through and including December 31, 2017. Purchases under our repurchase program may be made through open market purchases, privately negotiated transactions, or Rule 10b5-1 trading plans, subject to market conditions and other factors. We may elect not to purchase the maximum amount of shares allowable under this program and we may also enter into additional share repurchase programs authorized by our Board of Directors.

Item 6. SELECTED FINANCIAL DAT A

The selected consolidated financial data as of and for each of the five years ended December 31, 2016 have been derived from, and are qualified by reference to our consolidated financial statements. On April 26, 2011, we completed the acquisition of most of the assets of Blockbuster, Inc. As of December 31, 2013, Blockbuster had ceased material operations. On January 14, 2014, we completed the sale of our Blockbuster operations in Mexico. The results of Blockbuster are presented for all periods as discontinued operations in our consolidated financial statements. See Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for additional information regarding our discontinued operations.

Certain prior year amounts have been reclassified to conform to the current year presentation. See further information under " *Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations — Explanation of Key Metrics and Other Items* " in this Annual Report on Form 10-K.

This data should be read in conjunction with our consolidated financial statements and related notes thereto for the three years ended December 31, 2016, and " *Management's Discussion and Analysis of Financial Condition and Results of Operations* " included elsewhere in this Annual Report on Form 10-K.

	As of December 31,				
Balance Sheet Data	**2016**	**2015**	**2014**	**2013**	**2012**
			(In thousands)		
Cash, cash equivalents and current marketable investment securities	$ 5,359,341	$ 1,611,069	$ 9,236,241	$ 9,739,404	$ 7,205,379
Total assets	28,091,847	22,886,710	22,045,541	20,192,117	17,229,902
Long-term debt and capital lease obligations (including current portion)	16,478,900	13,755,925	14,427,526	13,597,237	11,831,745
Total stockholders' equity (deficit)	4,634,893	2,747,787	2,012,134	997,005	71,628

Statements of Operations Data	2016	2015	2014	2013	2012
	For the Years Ended December 31,				
	(In thousands, except per share amounts)				
Total revenue	$ 15,094,562	$ 15,068,901	$ 14,643,387	$ 13,904,865	$ 13,181,334
Total costs and expenses	12,883,453	13,736,505	12,818,936	12,556,686	11,922,976
Operating income (loss)	$ 2,211,109	$ 1,332,396	$ 1,824,451	$ 1,348,179	$ 1,258,358
Income (loss) from continuing operations	$ 1,469,454	$ 769,276	$ 928,902	$ 837,089	$ 662,919
Net income (loss) attributable to DISH Network	$ 1,449,853	$ 747,092	$ 944,693	$ 807,492	$ 636,687
Basic net income (loss) per share from continuing operations attributable to DISH Network	$ 3.12	$ 1.61	$ 2.05	$ 1.87	$ 1.49
Basic net income (loss) per share from discontinued operations	—	—	—	(0.10)	(0.08)
Basic net income (loss) per share attributable to DISH Network	$ 3.12	$ 1.61	$ 2.05	$ 1.77	$ 1.41
Diluted net income (loss) per share from continuing operations attributable to DISH Network	$ 3.05	$ 1.61	$ 2.04	$ 1.86	$ 1.49
Diluted net income (loss) per share from discontinued operations	—	—	—	(0.10)	(0.08)
Diluted net income (loss) per share attributable to DISH Network	$ 3.05	$ 1.61	$ 2.04	$ 1.76	$ 1.41
Cash dividend per common share	$ —	$ —	$ —	$ —	$ 1.00

Other Data (Unaudited except for net cash flows)	2016	2015	2014	2013	2012
	For the Years Ended December 31,				
Pay-TV subscribers, as of period end (in millions)	13.671 *	13.897	13.978	14.057	14.056
Pay-TV subscriber additions, gross (in millions)	2.614	2.773	2.601	2.666	2.739
Pay-TV subscriber additions (losses), net (in millions)	(0.392)	(0.081)	(0.079)	0.001	0.089
Pay-TV average monthly subscriber churn rate	1.83 %	1.71 %	1.59 %	1.58 %	1.57 %
Pay-TV average subscriber acquisition cost per subscriber (“Pay-TV SAC”)	$ 643	$ 723	$ 853	$ 866	$ 784
Pay-TV average monthly revenue per subscriber (“Pay-TV ARPU”)	$ 88.66	$ 86.79	$ 83.77	$ 80.37	$ 76.98
Broadband subscribers, as of period end (in millions)	0.580	0.623	0.577	0.436	0.183
Broadband subscriber additions, gross (in millions)	0.170	0.237	0.295	0.343	0.121
Broadband subscriber additions (losses), net (in millions)	(0.043)	0.046	0.141	0.253	0.078
Net cash flows from (in thousands):					
Operating activities from continuing operations	$ 2,802,152	$ 2,436,080	$ 2,378,124	$ 2,309,197	$ 2,003,718
Investing activities from continuing operations	$ (1,728,664)	$ (8,074,149)	$ (963,077)	$ (3,034,857)	$ (3,004,082)
Financing activities from continuing operations	$ 3,197,079	$ (413,269)	$ 980,267	$ 1,851,940	$ 4,003,933

* Our ending Pay-TV subscriber count increased by approximately 166,000 subscribers during the third quarter 2016 as a result of the change in our calculation for our commercial accounts. See “Explanation of Key Metrics and Other Items – Pay-TV subscribers” for further information.

Item 7. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATION S

You should read the following management’s discussion and analysis of our financial condition and results of operations together with the audited consolidated financial statements and notes to our financial statements included elsewhere in this Annual Report on Form 10-K. This management’s discussion and analysis is intended to help provide an understanding of our financial condition, changes in financial condition and results of our operations and contains forward-looking statements that involve risks and uncertainties. The forward-looking statements are not historical facts, but rather are based on current expectations, estimates, assumptions and projections about our industry, business and future financial results. Our actual results could differ materially from the results contemplated by these forward-looking statements due to a number of factors, including those discussed under the caption “Item 1A. Risk Factors” and elsewhere in this Annual Report on Form 10-K. Furthermore, such forward-looking statements speak only as of the date of this Annual Report on Form 10-K and we expressly disclaim any obligation to update any forward-looking statements.

Overview

Our business strategy is to be the best provider of video services in the United States by providing products with the best technology, outstanding customer service, and great value. We promote our Pay-TV services as providing our subscribers with a better “price-to-value” relationship than those available from other subscription television service providers.

As the pay-TV industry is mature, our strategy has included an increased emphasis on acquiring and retaining higher quality subscribers, even if it means that we will acquire and retain fewer overall subscribers. We evaluate the quality of subscribers based upon a number of factors, including, among others, profitability. Our Pay-TV subscriber base has been declining due to, among other things, this strategy. There can be no assurance that our Pay-TV subscriber base will not continue to decline.

Our current revenue and profit is primarily derived from providing Pay-TV and broadband services to our subscribers. We also generate revenue from equipment rental fees and other hardware related fees, including fees for DVRs, fees for broadband equipment, equipment upgrade fees and additional outlet fees from subscribers with receivers with multiple tuners; advertising services; and fees earned from our in-home service operations. Our most significant expenses are subscriber-related expenses, which are primarily related to programming, subscriber acquisition costs and depreciation and amortization.

Financial Highlights

2016 Consolidated Results of Operations and Key Operating Metrics

- Revenue of $15.095 billion
- Pay-TV ARPU of $88.66
- Net income attributable to DISH Network of $1.450 billion and basic and diluted earnings per share of common stock of $3.12 and $3.05, respectively.
- Gross new Pay-TV subscriber activations of approximately 2.614 million
- Pay-TV SAC of $643
- Loss of approximately 392,000 net Pay-TV subscribers
- Pay-TV churn rate of 1.83%
- Loss of approximately 43,000 net broadband subscribers

Consolidated Financial Condition as of December 31, 2016

- Cash, cash equivalents and current marketable investment securities of $5.359 billion
- Total assets of $28.092 billion
- Total long-term debt and capital lease obligations of $16.479 billion

Business Segments

We currently operate two primary business segments: (1) Pay-TV and Broadband and (2) Wireless.

Pay-TV and Broadband

We offer Pay-TV services under the DISH brand and the Sling brand. We had 13.671 million Pay-TV subscribers in the United States as of December 31, 2016 and are the nation's fourth largest pay-TV provider. Competition has intensified in recent years as the pay-TV industry has matured. To differentiate our DISH branded pay-TV service from our competitors, we introduced the Hopper whole-home DVR during 2012 and have continued to add functionality and simplicity for a more intuitive user experience. Our Hopper and Joey® whole-home DVR promotes a suite of integrated features and functionality designed to maximize the convenience and ease of watching TV anytime and anywhere. It also has several innovative features that a consumer can use, at his or her option, to watch and record television programming, through their televisions, Internet-connected tablets, smartphones and computers. During the first quarter 2016, we made our next generation Hopper, the Hopper 3, available to customers nationwide. Among other things, the Hopper 3 features 16 tuners, delivers an enhanced 4K Ultra HD experience, and supports up to seven TVs simultaneously. There can be no assurance that these integrated features and functionality will positively affect our results of operations or our gross new Pay-TV subscriber activations.

We market our Sling TV services primarily to consumers who do not subscribe to traditional satellite and cable pay-TV services. Our Sling TV services require an Internet connection and are available on multiple streaming-capable devices including TVs, tablets, computers, game consoles and smart phones. We offer Sling International, Sling Latino and Sling domestic video programming services. In addition to our original Sling domestic service that could only be streamed on one device at a time (single-stream service), in April 2016, we launched a live beta multi-stream Sling domestic service, which includes, among other things, the ability to stream on up to three devices simultaneously. In June 2016, our multi-stream Sling domestic service transitioned from its introductory beta period and was re-branded as Sling Blue and our original single-stream Sling domestic service was re-branded as Sling Orange. All Sling branded pay-TV subscribers are included in our Pay-TV subscriber count.

In addition, we bundle broadband and telephone services with our DISH branded pay-TV services. As of December 31, 2016, we had 0.580 million broadband subscribers in the United States. Connecting our subscribers' receivers to broadband service enhances the video experience and can be used by consumers to access DISH branded programming services on mobile devices. We market our wireline and satellite broadband services under the dishNET brand. Our dishNET satellite broadband service utilizes advanced technology and high-powered satellites launched by Hughes and ViaSat to provide broadband coverage nationwide. This service primarily targets rural residents that are underserved, or unserved, by wireline broadband, and provides download speeds of up to 15 Mbps and our dishNET branded wireline broadband service provides download speeds of up to 40 Mbps. Currently, satellite capacity constraints limit our ability to expand services in certain geographic areas. However, new satellite launches by Hughes and ViaSat are expected to provide additional capacity in 2017. EchoStar XIX, a Hughes satellite, was launched on December 18, 2016.

Wireless

DISH Network Spectrum

We have invested over $5.0 billion since 2008 to acquire certain wireless spectrum licenses and related assets. We will need to make significant additional investments or partner with others to, among other things, commercialize, build-out, and integrate these licenses and related assets, and any additional acquired licenses and related assets; and comply with regulations applicable to such licenses. Depending on the nature and scope of such commercialization, build-out, integration efforts, and regulatory compliance, any such investments or partnerships could vary significantly. In addition, as we consider our options for the commercialization of our wireless spectrum, we may incur significant additional expenses and may have to make significant investments related to, among other things, research and development, wireless testing and wireless network infrastructure. We may also determine that additional wireless spectrum licenses may be required to commercialize our wireless business and to compete with other wireless service providers.

Auction 1000. On February 10, 2016, we filed an application with the FCC to potentially participate as a bidder in the forward auction phase of Auction 1000. The available spectrum in each licensed geographic area in Auction 1000 is generally comprised of certain paired 5x5 spectrum blocks (5 MHz uplink spectrum and 5 MHz downlink spectrum). As a result, a nationwide footprint may be obtained by aggregating a single 5x5 spectrum block in each available licensed geographic area.

Auction 1000 has had multiple stages, with each stage having two phases. With respect to each stage, in the first phase, or reverse auction phase, participating television broadcasters "sell" their rights to use certain broadcast television spectrum in the 600 MHz frequency range to the FCC. Then following the first phase of a stage, in the second phase, or forward auction phase, the FCC will "resell" that spectrum to auction participants. In the event that certain criteria are not met within a particular stage for Auction 1000 to conclude, Auction 1000 then proceeds to a subsequent stage with less available spectrum than the immediately preceding stage and lower spectrum clearing targets.

Before the forward auction phase of Stage 1 of Auction 1000 began, a qualified bidder in the forward auction could make an upfront deposit of up to approximately $5.4 billion. On July 15, 2016, the FCC announced that a subsidiary of DISH Network and 61 other applicants were qualified to participate in the forward auction. The FCC determined that bidding in Auction 1000 will be "anonymous," which means that prior to and during the course of the auction, the FCC will not make public any information about a specific applicant's upfront deposits or its bids. In addition, FCC rules restrict information that applicants may disclose about their participation in Auction 1000.

- *Stage 1:* The reverse auction phase of Stage 1 began on March 29, 2016 and ended on June 29, 2016. Pursuant to the FCC's procedures for Auction 1000 and based on the results of the reverse auction phase of Stage 1, in order for Auction 1000 to have ultimately concluded, the aggregate bids in the forward auction phase of Stage 1 would have had to have exceeded approximately $88.4 billion. The forward auction phase of Stage 1 included 100 MHz of spectrum in over 90% of the available licensed geographic areas, based on the broadcasters' indicated availability of spectrum in the reverse auction phase. The forward auction phase of Stage 1 began on August 16, 2016 and ended on August 30, 2016, but the aggregate bids of approximately $23.1 billion did not exceed the approximately $88.4 billion required for Auction 1000 to ultimately conclude. As a result, Auction 1000 moved to Stage 2.
- *Stage 2:* The reverse auction phase of Stage 2 began on September 13, 2016 and ended on October 13, 2016. Pursuant to the FCC's procedures for Auction 1000 and based on the results of the reverse auction phase of Stage 2, in order for Auction 1000 to have ultimately concluded, the aggregate bids in the forward auction phase of Stage 2 would have had to have exceeded approximately $56.5 billion. The forward auction phase of Stage 2 included 90 MHz of spectrum in over 90% of the available licensed geographic areas, based on the broadcasters' indicated availability of spectrum in the reverse auction phase. The forward auction phase of Stage 2 began and ended on October 19, 2016, but the aggregate bids of approximately $21.5 billion did not exceed the approximately $56.5 billion required for Auction 1000 to ultimately conclude. As a result, Auction 1000 moved to Stage 3.
- *Stage 3:* The reverse auction phase of Stage 3 began on November 1, 2016 and ended on December 1, 2016. Pursuant to the FCC's procedures for Auction 1000 and based on the results of the reverse auction phase of Stage 3, in order for Auction 1000 to have ultimately concluded, the aggregate bids in the forward auction phase of Stage 3 would have had to have exceeded approximately $42.3 billion. The forward auction phase of Stage 3 included 80 MHz of spectrum in over 90% of the available licensed geographic areas, based on the broadcasters' indicated availability of spectrum in the reverse auction phase. The forward auction phase of Stage 3 began and ended on December 5, 2016, but the aggregate bids of approximately $19.7 billion did not exceed the approximately $42.3 billion required for Auction 1000 to ultimately conclude. As a result, Auction 1000 moved to Stage 4.

- Stage 4: The reverse auction phase of Stage 4 began on December 13, 2016 and ended on January 13, 2017. Pursuant to the FCC's procedures for Auction 1000 and based on the results of the reverse auction phase of Stage 4, in order for Auction 1000 to ultimately conclude, the aggregate bids in the forward auction phase of Stage 4 would have to exceed approximately $12.0 billion. The forward auction phase of Stage 4 includes 70 MHz of spectrum in over 90% of the available licensed geographic areas, based on the broadcasters' indicated availability of spectrum in the reverse auction phase. The clock bidding portion of the forward auction phase of Stage 4 began on January 18, 2017 and ended on February 10, 2017. The aggregate bids of approximately $19.6 billion exceeded the approximately $12.0 billion required for Auction 1000 to ultimately conclude. As a result, Auction 1000 moved to the assignment portion of the forward auction phase in which winning bidders in the clock bidding portion have the opportunity to bid for frequency-specific licenses. The assignment portion is scheduled to begin on March 6, 2017, and all assignment rounds are expected to end no later than March 30, 2017. During the assignment portion, the FCC rules restricting information that forward auction applicants may disclose about their participation in Auction 1000 remain in place. As mentioned above, a subsidiary of DISH Network qualified to participate in the forward auction. To the extent that it is the winning bidder for any 600 MHz licenses, we would expect to pay for such licenses from any upfront deposit made with the FCC and/or existing cash and marketable investment securities balances.

See Note 14 " *Commitments and Contingencies — Wireless — DISH Network Spectrum* " in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

DISH Network Non-Controlling Investments in the Northstar Entities and the SNR Entities Related to AWS-3 Wireless Spectrum Licenses

Through our wholly-owned subsidiaries American II and American III, we have made over $10.0 billion in certain non-controlling investments in Northstar Spectrum, the parent company of Northstar Wireless, and in SNR HoldCo, the parent company of SNR Wireless, respectively. On October 27, 2015, the FCC granted the Northstar Licenses to Northstar Wireless and the SNR Licenses to SNR Wireless, respectively, which are recorded in "FCC authorizations" on our Consolidated Balance Sheets. Under the applicable accounting guidance in ASC 810, Northstar Spectrum and SNR HoldCo are considered variable interest entities and, based on the characteristics of the structure of these entities and in accordance with the applicable accounting guidance, we have consolidated these entities into our financial statements beginning in the fourth quarter 2014. See Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information. The AWS-3 Licenses are subject to certain interim and final build-out requirements. We may need to make significant additional loans to the Northstar Entities and to the SNR Entities, or they may need to partner with others, so that the Northstar Entities and the SNR Entities may commercialize, build-out and integrate the Northstar Licenses and the SNR Licenses, and comply with regulations applicable to the Northstar Licenses and the SNR Licenses. Depending upon the nature and scope of such commercialization, build-out, integration efforts, and regulatory compliance, any such loans or partnerships could vary significantly. See Note 14 " *Commitments and Contingencies — Wireless — DISH Network Non-Controlling Investments in the Northstar Entities and the SNR Entities Related to AWS-3 Wireless Spectrum Licenses* " in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

We may need to raise significant additional capital in the future to fund the efforts described above, which may not be available on acceptable terms or at all. There can be no assurance that we, the Northstar Entities and/or the SNR Entities will be able to develop and implement business models that will realize a return on these wireless spectrum licenses or that we, the Northstar Entities and/or the SNR Entities will be able to profitably deploy the assets represented by these wireless spectrum licenses, which may affect the carrying amount of these assets and our future financial condition or results of operations. See Note 14 " *Commitments and Contingencies — Wireless* " in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Trends in our Pay-TV and Broadband Segment

Competition

Competition has intensified in recent years as the pay-TV industry has matured. With respect to our DISH branded pay-TV services, we and our competitors increasingly must seek to attract a greater proportion of new subscribers from each other's existing subscriber bases rather than from first-time purchasers of pay-TV services. Some of our competitors have been especially aggressive by offering discounted programming and services for both new and existing subscribers, including bundled offers combining broadband, video and/or wireless services and other promotional offers. In some cases, certain competitors have been able to potentially subsidize the price of video services with the price of broadband and/or wireless services. We incur significant costs to retain our existing DISH branded pay-TV customers, mostly as a result of upgrading their equipment to HD and DVR receivers and by providing retention credits. Our subscriber retention costs may vary significantly from period to period. Our Pay-TV services also face increased competition from programmers and other companies who distribute video directly to consumers over the Internet. Programming offered over the Internet has become more prevalent and consumers are spending an increasing amount of time accessing video content via the Internet on their mobile devices. Significant changes in consumer behavior with regard to the means by which consumers obtain video entertainment and information in response to digital media competition could have a material adverse effect on our business, results of operations and financial condition or otherwise disrupt our business. In particular, consumers have shown increased interest in viewing certain video programming in any place, at any time and/or on any broadband-connected device they choose. Online content providers may cause our subscribers to disconnect our services ("cord cutting"), downgrade to smaller, less expensive programming packages ("cord shaving") or elect to purchase through these online content providers a certain portion of the services that they would have historically purchased from us, such as pay per view movies, resulting in less revenue to us.

We implement new marketing promotions from time to time that are intended to increase our gross new Pay-TV subscriber activations. During 2015 and early 2016, we launched various marketing promotions offering certain DISH branded pay-TV programming packages without a price increase for a limited time period. During the third quarter 2016, we launched our Flex Pack skinny bundle with a core package of programming consisting of more than 50 channels and the choice of one of eight themed add-on channel packs, which include local broadcast networks and kids, national and regional sports and general entertainment programming. Subscribers can also add or remove additional channel packs to best suit their entertainment needs. During 2017, we launched "Tuned In To You" and the accompanying "Spokeslistener" campaign. While we plan to implement these and other new marketing efforts, there can be no assurance that we will ultimately be successful in increasing our gross new Pay-TV subscriber activations. Additionally, in response to our efforts, we may face increased competitive pressures, including aggressive marketing, more aggressive retention efforts, bundled discount offers combining broadband, video and/or wireless services and other discounted promotional offers.

In addition, our gross new Pay-TV subscriber activations, net Pay-TV subscriber additions and Pay-TV churn rate continue to be negatively impacted by stricter customer acquisition and retention policies for our DISH branded pay-TV subscribers, including an increased emphasis on acquiring and retaining higher quality subscribers, as well as increased competitive pressures, including aggressive marketing, more aggressive retention efforts, bundled discount offers combining broadband, video and/or wireless services and other discounted promotional offers.

Our Pay-TV subscriber base has been declining due to, among other things, the factors described above. There can be no assurance that our Pay-TV subscriber base will not continue to decline. In the event that our Pay-TV subscriber base continues to decline, it could have a material adverse long-term effect on our business, results of operations, financial condition and cash flow.

Programming

Our ability to compete successfully will depend, among other things, on our ability to continue to obtain desirable programming and deliver it to our subscribers at competitive prices. Programming costs represent a large percentage of our "Subscriber-related expenses" and the largest component of our total expense. We expect these costs to continue to increase, and certain programming costs are rising at a much faster rate than wages or inflation, especially for local broadcast channels. The rates we are charged for retransmitting local broadcast channels have been increasing substantially and may exceed our ability to increase our prices to our customers. In addition, programming costs continue to increase due to contractual price increases and the renewal of long-term programming contracts on less favorable pricing terms. Going forward, our margins may face pressure if we are unable to renew our long-term programming contracts on acceptable pricing and other economic terms or if we are unable to pass these increased programming costs on to our customers.

Increases in programming costs generally cause us to increase the rates that we charge to our subscribers, which could in turn cause our existing Pay-TV subscribers to disconnect our service or cause potential new Pay-TV subscribers to choose not to subscribe to our service. Additionally, even if our subscribers do not disconnect our services, they may purchase through new and existing online content providers a certain portion of the services that they would have historically purchased from us, such as pay-per-view movies, resulting in less revenue to us.

Furthermore, our gross new Pay-TV subscriber activations, net Pay-TV subscriber additions and Pay-TV churn rate may be negatively impacted if we are unable to renew our long-term programming carriage contracts before they expire. In the past, our gross new Pay-TV subscriber activations, net Pay-TV subscriber additions and Pay-TV churn rate have been negatively impacted as a result of programming interruptions and threatened programming interruptions in connection with the scheduled expiration of programming contracts with content providers, including, among others, Tribune Broadcasting Company ("Tribune") during the second and third quarters of 2016. We cannot predict with any certainty the impact to our gross new Pay-TV subscriber activations, net Pay-TV subscriber additions and Pay-TV churn rate resulting from similar programming interruptions or threatened programming interruptions that may occur in the future. As a result, we may at times suffer from periods of lower gross new Pay-TV subscriber activations, lower net Pay-TV subscriber additions or higher net Pay-TV subscriber losses, and higher Pay-TV churn rates.

Operations and Customer Service

While competitive factors have impacted the entire pay-TV industry, our relative performance has also been driven by issues specific to us. In the past, our subscriber growth has been adversely affected by signal theft and other forms of fraud and by our operational inefficiencies. To combat signal theft and improve the security of our broadcast system, we use microchips embedded in credit card sized access cards, called "smart cards," or security chips in our DBS receiver systems to control access to authorized programming content ("Security Access Devices"). We expect that future replacements of these devices may be necessary to keep our system secure. To combat other forms of fraud, among other things, we monitor our independent third-party distributors' and independent third-party retailers' adherence to our business rules.

While we have made improvements in responding to and dealing with customer service issues, we continue to focus on the prevention of these issues, which is critical to our business, financial condition and results of operations. To improve our operational performance, we continue to make investments in staffing, training, information systems, and other initiatives, primarily in our call center and in-home service operations. These investments are intended to help combat inefficiencies introduced by the increasing complexity of our business, improve customer satisfaction, reduce churn, increase productivity, and allow us to scale better over the long run. We cannot be certain, however, that our spending will ultimately be successful in improving our operational performance.

Changes in our Technology

We have been deploying DBS receivers that utilize 8PSK modulation technology with MPEG-4 compression technology for several years. These technologies, when fully deployed, will allow improved broadcast efficiency, and therefore allow increased programming capacity. Many of our customers today, however, do not have DBS receivers that use MPEG-4 compression technology. In addition, given that all of our HD content is broadcast in MPEG-4, any growth in HD penetration will naturally accelerate our transition to these newer technologies and may increase our subscriber acquisition and retention costs. All new DBS receivers that we purchase from EchoStar have MPEG-4 compression with 8PSK modulation technology.

In addition, from time to time, we change equipment for certain subscribers to make more efficient use of transponder capacity in support of HD and other initiatives. We believe that the benefit from the increase in available transponder capacity outweighs the short-term cost of these equipment changes.

Share Exchange Agreement

On January 31, 2017, we and our indirect wholly-owned subsidiaries DNLLC and DOLLC, entered into the Share Exchange Agreement with EchoStar, EB Holdco, EB Splitco, ET Splitco, and ETLLC. Pursuant to the Share Exchange Agreement, among other things: (i) EchoStar will complete the steps necessary for certain assets and liabilities of the Transferred Businesses to be transferred to EB Splitco and ET Splitco; and (ii) EchoStar will transfer to us 100% of the equity of EB Splitco and ET Splitco, and in exchange, we will transfer the EchoStar Tracking Stock to EchoStar and the HSSC Tracking Stock to HSSC. The financial results related to the Share Exchange Agreement are not included in our consolidated financial statements for all periods presented as the closing of the Transaction is subject to various conditions and is not expected to close prior to February 28, 2017. See Note 18 to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

EXPLANATION OF KEY METRICS AND OTHER ITEMS

Subscriber-related revenue . "Subscriber-related revenue" consists principally of revenue from basic, premium movie, local, HD programming, pay-per-view, Latino and international subscriptions; broadband services; equipment rental fees and other hardware related fees, including fees for DVRs, fees for broadband equipment, equipment upgrade fees and additional outlet fees; advertising services; fees earned from our in-home service operations and other subscriber revenue. Certain of the amounts included in "Subscriber-related revenue" are not recurring on a monthly basis.

Equipment sales and other revenue . "Equipment sales and other revenue" principally includes the non-subsidized sales of DBS accessories to independent third-party retailers and other independent third-party distributors of our equipment and revenue from equipment sales and other agreements with EchoStar.

Subscriber-related expenses . "Subscriber-related expenses" principally include programming expenses, which represent a substantial majority of these expenses. "Subscriber-related expenses" also include costs for Pay-TV and broadband services incurred in connection with our in-home service and call center operations, billing costs, refurbishment and repair costs related to DBS receiver systems and broadband equipment, subscriber retention, other variable subscriber expenses and monthly wholesale fees paid to broadband providers.

Satellite and transmission expenses . "Satellite and transmission expenses" includes the cost of leasing satellite and transponder capacity from EchoStar and the cost of digital broadcast operations provided to us by EchoStar, including satellite uplinking/downlinking, signal processing, conditional access management, telemetry, tracking and control, and other professional services. "Satellite and transmission expenses" also includes executory costs associated with capital leases and costs associated with transponder leases and other related services. In addition, "Satellite and transmission expenses" includes costs associated with our Sling TV services including, among other things, streaming delivery technology and infrastructure.

Cost of sales - equipment and other. "Cost of sales - equipment and other" primarily includes the cost of non-subsidized sales of DBS accessories to independent third-party retailers and other independent third-party distributors of our equipment and costs related to equipment sales and other agreements with EchoStar.

Subscriber acquisition costs . While we primarily lease DBS receiver systems and Broadband modem equipment, we also subsidize certain costs to attract new subscribers. Our "Subscriber acquisition costs" include the cost of subsidized sales of DBS receiver systems to independent third-party retailers and other independent third-party distributors of our equipment, the cost of subsidized sales of DBS receiver systems directly by us to subscribers, including net costs related to our promotional incentives, costs related to our direct sales efforts and costs related to installation and acquisition advertising. Our "Subscriber acquisition costs" also includes costs associated with acquiring Sling branded pay-TV subscribers including, among other things, costs related to acquisition advertising, our direct sales efforts and commissions.

Pay-TV SAC. Subscriber acquisition cost measures are commonly used by those evaluating companies in the pay-TV industry. We are not aware of any uniform standards for calculating the "average subscriber acquisition costs per new Pay-TV subscriber activation," or Pay-TV SAC, and we believe presentations of Pay-TV SAC may not be calculated consistently by different companies in the same or similar businesses. Our Pay-TV SAC is calculated as "Subscriber acquisition costs," excluding "Subscriber acquisition costs" associated with our broadband services, plus the value of equipment capitalized under our lease program for new DISH branded pay-TV subscribers, divided by gross new Pay-TV subscriber activations. We include all the costs of acquiring Pay-TV subscribers (e.g., subsidized and capitalized equipment) as we believe it is a more comprehensive measure of how much we are spending to acquire subscribers. We also include all new Pay-TV subscribers in our calculation, including Pay-TV subscribers added with little or no subscriber acquisition costs. Subscriber acquisition costs for Sling branded pay-TV subscribers are significantly lower than those for DISH branded pay-TV subscribers, and therefore, as Sling branded pay-TV subscriber activations increase, it will have a positive impact on Pay-TV SAC.

General and administrative expenses . "General and administrative expenses" consists primarily of employee-related costs associated with administrative services such as legal, information systems, and accounting and finance. It also includes outside professional fees (e.g., legal, information systems and accounting services) and other items associated with facilities and administration.

Interest expense, net of amounts capitalized. "Interest expense, net of amounts capitalized" primarily includes interest expense (net of capitalized interest), prepayment premiums, amortization of debt discounts and debt issuance costs associated with our long-term debt, and interest expense associated with our capital lease obligations. See Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information regarding our capitalized interest policy.

Other, net. The main components of "Other, net" are gains and losses realized on the sale and/or conversion of marketable and non-marketable investment securities and derivative financial instruments, impairment of marketable and non-marketable investment securities, unrealized gains and losses from changes in fair value of marketable and non-marketable strategic investments accounted for under the Fair Value Option and derivative financial instruments, and equity in earnings and losses of our affiliates.

Earnings before interest, taxes, depreciation and amortization ("EBITDA"). EBITDA is defined as "Net income (loss) attributable to DISH Network" plus "Interest expense, net of amounts capitalized" net of "Interest income," "Income tax (provision) benefit, net" and "Depreciation and amortization." This "non-GAAP measure" is reconciled to "Net income (loss) attributable to DISH Network" in our discussion of "Results of Operations" below.

Pay-TV subscribers. We include customers obtained through direct sales, independent third-party retailers and other independent third-party distribution relationships in our Pay-TV subscriber count. We also provide DISH branded pay-TV service to hotels, motels and other commercial accounts. For certain of these commercial accounts, we previously divided our total revenue for these commercial accounts by an amount approximately equal to the retail price of our DISH America programming package, and included the resulting number, which is substantially smaller than the actual number of commercial units served, in our Pay-TV subscriber count. During the third quarter 2016, we launched our Flex Pack programming package that represents our lowest tier programming package under which a new subscriber can activate, and, effective September 30, 2016, we began dividing the total revenue for these certain commercial accounts by an amount approximately equal to the retail price of our Flex Pack programming package. The impact of this change was an increase to our ending subscriber count of approximately 166,000 subscribers during the third quarter 2016. This had no impact on our gross new Pay-TV subscriber activations or net Pay-TV subscriber losses for the year ended December 31, 2016. All Sling branded pay-TV subscribers are included in our Pay-TV subscriber count. Sling branded pay-TV subscribers receiving service for no charge, under certain new subscriber promotions, are excluded from our Pay-TV subscriber count. Sling branded pay-TV subscribers are reported net of disconnects in our gross new Pay-TV subscriber activations. For customers who subscribe to both our DISH branded pay-TV service and our Sling branded pay-TV services, each subscription is counted as a separate Pay-TV subscriber.

Broadband subscribers. We include customers who subscribe to either our satellite broadband service or our wireline broadband service under the dishNET brand as Broadband subscribers. Each broadband customer is counted as one Broadband subscriber, regardless of whether they are also a Pay-TV subscriber. A subscriber of both our Pay-TV and broadband services is counted as one Pay-TV subscriber and one Broadband subscriber.

Pay-TV average monthly revenue per subscriber ("Pay-TV ARPU"). We are not aware of any uniform standards for calculating ARPU and believe presentations of ARPU may not be calculated consistently by other companies in the same or similar businesses. We calculate Pay-TV average monthly revenue per Pay-TV subscriber, or Pay-TV ARPU, by dividing average monthly "Subscriber-related revenue," excluding revenue from broadband services, for the period by our average number of Pay-TV subscribers for the period. The average number of Pay-TV subscribers is calculated for the period by adding the average number of Pay-TV subscribers for each month and dividing by the number of months in the period. The average number of Pay-TV subscribers for each month is calculated by adding the beginning and ending Pay-TV subscribers for the month and dividing by two. Sling branded pay-TV subscribers on average purchase lower priced programming services than DISH branded pay-TV subscribers, and therefore, as Sling branded pay-TV subscribers increase, it will have a negative impact on Pay-TV ARPU.

Pay-TV average monthly subscriber churn rate ("Pay-TV churn rate"). We are not aware of any uniform standards for calculating subscriber churn rate and believe presentations of subscriber churn rates may not be calculated consistently by different companies in the same or similar businesses. We calculate Pay-TV churn rate for any period by dividing the number of DISH branded pay-TV subscribers who terminated service during the period by the average number of Pay-TV subscribers for the same period, and further dividing by the number of months in the period. When calculating the Pay-TV churn rate, the same methodology for calculating average number of Pay-TV subscribers is used as when calculating Pay-TV ARPU. As described above, Sling branded pay-TV subscribers are reported net of disconnects in our gross new Pay-TV subscriber activations. Therefore, to the extent that our Sling branded pay-TV subscriber base grows, our Pay-TV churn rate will be positively impacted.

Free cash flow . We define free cash flow as "Net cash flows from operating activities" less "Purchases of property and equipment " and "Capitalized interest related to FCC authorizations," as shown on our Consolidated Statements of Cash Flows.

RESULTS OF OPERATIONS

Year Ended December 31, 2016 Compared to the Year Ended December 31, 2015.

Statements of Operations Data	For the Years Ended December 31, 2016		For the Years Ended December 31, 2015		Variance Amount	Variance %
	(In thousands)					
Revenue:						
Subscriber-related revenue	$ 15,033,939		$ 14,953,559		$ 80,380	0.5
Equipment sales and other revenue	60,623		115,342		(54,719)	(47.4)
Total revenue	15,094,562		15,068,901		25,661	0.2
Costs and Expenses:						
Subscriber-related expenses	8,887,437		8,783,009		104,428	1.2
% of Subscriber-related revenue	**59.1**	**%**	**58.7**	**%**		
Satellite and transmission expenses	726,791		762,832		(36,041)	(4.7)
% of Subscriber-related revenue	**4.8**	**%**	**5.1**	**%**		
Cost of sales - equipment and other	61,915		91,654		(29,739)	(32.4)
Subscriber acquisition costs	1,470,940		1,682,548		(211,608)	(12.6)
General and administrative expenses	783,224		777,507		5,717	0.7
% of Total revenue	**5.2**	**%**	**5.2**	**%**		
FCC auction expense (Note 14)	—		515,555		(515,555)	*
Depreciation and amortization	953,146		1,000,048		(46,902)	(4.7)
Impairment of long-lived assets (Note 8)	—		123,352		(123,352)	*
Total costs and expenses	12,883,453		13,736,505		(853,052)	(6.2)
Operating income (loss)	2,211,109		1,332,396		878,713	65.9
Other Income (Expense):						
Interest income	31,164		19,523		11,641	59.6
Interest expense, net of amounts capitalized	(52,992)		(494,010)		441,018	89.3
Other, net	117,182		278,043		(160,861)	(57.9)
Total other income (expense)	95,354		(196,444)		291,798	*
Income (loss) before income taxes	2,306,463		1,135,952		1,170,511	*
Income tax (provision) benefit, net	(837,009)		(366,676)		(470,333)	*
Effective tax rate	**36.3**	**%**	**32.3**	**%**		
Net income (loss)	1,469,454		769,276		700,178	91.0
Less: Net income (loss) attributable to noncontrolling interests, net of tax	19,601		22,184		(2,583)	(11.6)
Net income (loss) attributable to DISH Network	$ 1,449,853		$ 747,092		$ 702,761	94.1
Other Data:						
Pay-TV subscribers, as of period end (in millions)	13.671	**	13.897		(0.226)	(1.6)
Pay-TV subscriber additions, gross (in millions)	2.614		2.773		(0.159)	(5.7)
Pay-TV subscriber additions (losses), net (in millions)	(0.392)		(0.081)		(0.311)	*
Pay-TV average monthly subscriber churn rate (“Pay-TV churn rate”)	1.83	%	1.71	%	0.12 %	7.0
Pay-TV average subscriber acquisition cost per subscriber (“Pay-TV SAC”)	$ 643		$ 723		$ (80)	(11.1)
Pay-TV average monthly revenue per subscriber (“Pay-TV ARPU”)	$ 88.66		$ 86.79		$ 1.87	2.2
Broadband subscribers, as of period end (in millions)	0.580		0.623		(0.043)	(6.9)
Broadband subscriber additions, gross (in millions)	0.170		0.237		(0.067)	(28.3)
Broadband subscriber additions (losses), net (in millions)	(0.043)		0.046		(0.089)	*
EBITDA	$ 3,261,836		$ 2,588,303		$ 673,533	26.0

* Percentage is not meaningful.

** Our ending Pay-TV subscriber count increased by approximately 166,000 subscribers during the third quarter 2016 as a result of the change in our calculation for our commercial accounts. See “Explanation of Key Metrics and Other Items – Pay-TV subscribers” for further information.

Pay-TV subscribers . We lost approximately 392,000 net Pay-TV subscribers during the year ended December 31, 2016, compared to the loss of approximately 81,000 net Pay-TV subscribers during the same period in 2015. The increase in net Pay-TV subscriber losses versus the same period in 2015 resulted from a higher Pay-TV churn rate and lower gross new Pay-TV subscriber activations.

Our Pay-TV churn rate for the year ended December 31, 2016 was 1.83% compared to 1.71% for the same period in 2015. Our Pay-TV churn rate continues to be adversely affected by increased competitive pressures, including aggressive marketing, bundled discount offers combining broadband, video and/or wireless services and other discounted promotional offers, as well as cord cutting. Our Pay-TV churn rate is also impacted by, among other things, the credit quality of previously acquired subscribers, our ability to consistently provide outstanding customer service, price increases, programming interruptions in connection with the scheduled expiration of certain programming carriage contracts, our ability to control piracy and other forms of fraud and the level of our retention efforts. As part of our increased emphasis on retaining higher quality subscribers, we have been more selective in issuing retention credits, which has had a negative impact on our Pay-TV churn rate.

During the year ended December 31, 2016, we activated approximately 2.614 million gross new Pay-TV subscribers compared to approximately 2.773 million gross new Pay-TV subscribers during the same period in 2015, a decrease of 5.7%. This decrease in our gross new Pay-TV subscriber activations was primarily impacted by stricter customer acquisition policies for our DISH branded pay-TV subscribers, including an increased emphasis on acquiring higher quality subscribers, as well as increased competitive pressures, including aggressive marketing, more aggressive retention efforts, bundled discount offers combining broadband, video and/or wireless services and other discounted promotional offers. This decrease was partially offset by an increase in Sling branded pay-TV subscriber activations during 2016. In addition, our ending Pay-TV subscriber count increased by approximately 166,000 subscribers during the third quarter 2016 as a result of the change in our calculation for our commercial accounts. This had no impact on our gross new Pay-TV subscriber activations or net Pay-TV subscriber losses for the year ended December 31, 2016. See “ *Explanation of Key Metrics and Other Items – Pay-TV subscribers* ” for further information.

Our gross new Pay-TV subscriber activations, net Pay-TV subscriber additions and Pay-TV churn rate have been negatively impacted as a result of programming interruptions and threatened programming interruptions in connection with the scheduled expiration of programming carriage contracts with content providers, including, among others, Tribune during the second and third quarters of 2016. We cannot predict with any certainty the impact to our gross new Pay-TV subscriber activations, net Pay-TV subscriber additions and Pay-TV churn rate resulting from similar programming interruptions or threatened programming interruptions that may occur in the future. As a result, we may at times suffer from periods of lower gross new Pay-TV subscriber activations, lower net Pay-TV subscriber additions or higher net Pay-TV subscriber losses, and higher Pay-TV churn rates.

We have not always met our own standards for performing high-quality installations, effectively resolving subscriber issues when they arise, answering subscriber calls in an acceptable timeframe, effectively communicating with our subscriber base, reducing calls driven by the complexity of our business, improving the reliability of certain systems and subscriber equipment, and aligning the interests of certain independent third-party retailers and installers to provide high-quality service. Most of these factors have affected both gross new Pay-TV subscriber activations as well as Pay-TV churn rate. Our future gross new Pay-TV subscriber activations and our Pay-TV churn rate may be negatively impacted by these factors, which could in turn adversely affect our revenue growth.

Broadband subscribers. We lost approximately 43,000 net Broadband subscribers during the year ended December 31, 2016 compared to the addition of approximately 46,000 net Broadband subscribers during the same period in 2015. The net Broadband subscriber losses during the year ended December 31, 2016 primarily resulted from lower gross new Broadband subscriber activations and a higher number of customer disconnects. During the years ended December 31, 2016 and 2015, we activated approximately 170,000 and 237,000 gross new Broadband subscribers, respectively. Gross new Broadband subscriber activations declined primarily due to stricter customer acquisition policies, including an increased emphasis on acquiring higher quality subscribers, lower gross Pay-TV subscriber activations and satellite capacity constraints in certain geographic areas. Customer disconnects have been negatively impacted, in part, by our increased emphasis on retaining higher quality subscribers, which includes, among other things, being more selective in issuing retention credits.

Subscriber-related revenue. "Subscriber-related revenue" totaled $15.034 billion for the year ended December 31, 2016, an increase of $80 million or 0.5% compared to the same period in 2015. The change in "Subscriber-related revenue" from the same period in 2015 was primarily related to the increase in Pay-TV ARPU discussed below, partially offset by a lower average Pay-TV subscriber base. Included in "Subscriber-related revenue" was $457 million and $439 million of revenue related to our broadband services for the years ended December 31, 2016 and 2015, respectively, representing 3.0% and 2.9% of our total "Subscriber-related revenue," respectively.

Pay-TV ARPU. Pay-TV ARPU was $88.66 during the year ended December 31, 2016 versus $86.79 during the same period in 2015. The $1.87 or 2.2% increase in Pay-TV ARPU was primarily attributable to the DISH branded pay-TV programming package price increases in February 2016 and 2015. These price increases were partially offset by a shift in DISH branded pay-TV programming package mix and an increase in Sling branded pay-TV subscribers. Sling branded pay-TV subscribers on average purchase lower priced programming services than DISH branded pay-TV subscribers, and therefore, the increase in Sling branded pay-TV subscribers during 2016 had a negative impact on Pay-TV ARPU. We expect this trend to continue.

Subscriber-related expenses. "Subscriber-related expenses" totaled $8.887 billion during the year ended December 31, 2016, an increase of $104 million or 1.2% compared to the same period in 2015. The increase in "Subscriber-related expenses" was primarily attributable to higher programming costs per subscriber, partially offset by a lower average Pay-TV subscriber base. The increase in programming costs per subscriber was driven by rate increases in certain of our programming contracts, including the renewal of certain contracts at higher rates, particularly for local broadcast channels. Included in "Subscriber-related expenses" was $274 million and $272 million of expense related to our broadband services for the years ended December 31, 2016 and 2015, respectively. "Subscriber-related expenses" represented 59.1% and 58.7% of "Subscriber-related revenue" during the years ended December 31, 2016 and 2015, respectively. The increase in this expense to revenue ratio primarily resulted from higher programming costs, discussed above.

In the normal course of business, we enter into contracts to purchase programming content in which our payment obligations are generally contingent on the number of Pay-TV subscribers to whom we provide the respective content. Our "Subscriber-related expenses" have and may continue to face further upward pressure from price increases and the renewal of long-term programming contracts on less favorable pricing terms. In addition, our programming expenses will continue to increase to the extent we are successful in growing our Pay-TV subscriber base.

Subscriber acquisition costs. "Subscriber acquisition costs" totaled $1.471 billion for the year ended December 31, 2016, a decrease of $212 million or 12.6% compared to the same period in 2015. This change was primarily attributable to a decrease in Pay-TV SAC, discussed below, fewer gross new Pay-TV subscriber activations, and a decrease in expense related to our Broadband subscriber activations. Included in "Subscriber acquisition costs" was $70 million and $107 million of expenses related to our broadband services for the years ended December 31, 2016 and 2015, respectively.

Pay-TV SAC. Pay-TV SAC was $643 during the year ended December 31, 2016 compared to $723 during the same period in 2015, a decrease of $80 or 11.1%. This change was primarily attributable to an increase in Sling branded pay-TV subscriber activations and a decrease in hardware costs per activation, partially offset by an increase in advertising costs per activation. Subscriber acquisition costs for Sling branded pay-TV subscribers are significantly lower than those for DISH branded pay-TV subscribers, and therefore, the increase in Sling branded pay-TV subscriber activations during 2016 had a positive impact on Pay-TV SAC. We expect this trend to continue. The decrease in hardware costs per activation was primarily due to a higher percentage of remanufactured receivers being activated on new DISH branded pay-TV subscriber accounts and a reduction in manufacturing costs related to certain receiver systems. This decrease in hardware costs was partially offset by an increase in the percentage of new DISH branded pay-TV subscriber activations with Hopper 3 receiver systems, which have a higher cost per unit than the prior generation Hopper receiver systems.

During the years ended December 31, 2016 and 2015, the amount of equipment capitalized under our lease program for new DISH branded pay-TV subscribers totaled $280 million and $429 million, respectively. This decrease in capital expenditures under our lease program for new DISH branded pay-TV subscribers resulted primarily from fewer gross new Pay-TV subscriber activations and a decrease in hardware costs per activation, discussed above.

To remain competitive we upgrade or replace subscriber equipment periodically as technology changes, and the costs associated with these upgrades may be substantial. To the extent technological changes render a portion of our existing equipment obsolete, we would be unable to redeploy all returned equipment and consequently would realize less benefit from the Pay-TV SAC reduction associated with redeployment of that returned lease equipment.

Our "Subscriber acquisition costs" and "Pay-TV SAC" may materially increase in the future to the extent that we, among other things, transition to newer technologies, introduce more aggressive promotions, or provide greater equipment subsidies. See further information under *"Liquidity and Capital Resources — Subscriber Acquisition and Retention Costs."*

FCC auction expense. On October 1, 2015, Northstar Wireless and SNR Wireless notified the FCC that they would not be paying the gross winning bid amounts on certain AWS-3 Licenses. As a result, the FCC retained those AWS-3 Licenses and Northstar Wireless and SNR Wireless owed the FCC an additional interim payment of approximately $516 million. See Note 14 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Impairment of long-lived assets. "Impairment of long-lived assets" of $123 million during the year ended December 31, 2015 resulted from an impairment of the D1 satellite and related ground equipment. See Note 8 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Interest expense, net of amounts capitalized. "Interest expense, net of amounts capitalized" totaled $53 million during the year ended December 31, 2016, a decrease of $441 million or 89.3% compared to the same period in 2015. This decrease was primarily related to an increase of $474 million in capitalized interest principally associated with wireless spectrum and a reduction in interest expense as a result of redemptions and repurchases of debt during 2016 and 2015, partially offset by interest expense associated with the issuance of the Convertible Notes due 2026 and our 7 3/4% Senior Notes due 2026. On October 27, 2015, the FCC granted certain AWS-3 Licenses to Northstar Wireless and to SNR Wireless, respectively. We began capitalizing interest expense related to the commercialization of these wireless spectrum licenses in the fourth quarter 2015. See Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Other, net. "Other, net" income was $117 million during the year ended December 31, 2016, a decrease of $161 million or 57.9% compared to the same period in 2015. This change resulted from a decrease in net realized and/or unrealized gains on our derivative financial instruments, partially offset by an increase in net realized gains on our marketable investment securities. See Note 6 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Earnings before interest, taxes, depreciation and amortization . EBITDA was $3.262 billion during the year ended December 31, 2016, an increase of $674 million or 26.0% compared to the same period in 2015. EBITDA for the year ended December 31, 2016 was positively impacted by "Other, net" income of $117 million. EBITDA for the year ended December 31, 2015 was negatively impacted by the "FCC auction expense" of $516 million and "Impairment of long-lived assets" of $123 million, partially offset by the positive impact of "Other, net" income of $278 million. The following table reconciles EBITDA to the accompanying financial statements.

	For the Years Ended December 31,	
	2016	**2015**
	(In thousands)	
EBITDA	$ 3,261,836	$ 2,588,303
Interest, net	(21,828)	(474,487)
Income tax (provision) benefit, net	(837,009)	(366,676)
Depreciation and amortization	(953,146)	(1,000,048)
Net income (loss) attributable to DISH Network	$ 1,449,853	$ 747,092

EBITDA is not a measure determined in accordance with accounting principles generally accepted in the United States ("GAAP") and should not be considered a substitute for operating income, net income or any other measure determined in accordance with GAAP. EBITDA is used as a measurement of operating efficiency and overall financial performance and we believe it to be a helpful measure for those evaluating companies in the pay-TV industry. Conceptually, EBITDA measures the amount of income generated each period that could be used to service debt, pay taxes and fund capital expenditures. EBITDA should not be considered in isolation or as a substitute for measures of performance prepared in accordance with GAAP.

Income tax (provision) benefit, net . Our income tax provision was $837 million during the year ended December 31, 2016, an increase of $470 million compared to the same period in 2015. The increase in the provision was primarily related to the increase in "Income (loss) before income taxes" and an increase in our effective tax rate. During the year ended December 31, 2015, our effective tax rate was positively impacted by a $63 million credit that was previously recorded in "Accumulated other comprehensive income (loss)" and was released to our income tax provision during the year ended December 31, 2015. See Note 5 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Year Ended December 31, 2015 Compared to the Year Ended December 31, 2014.

Statements of Operations Data	For the Years Ended December 31, 2015	2014	Variance Amount	%
	(In thousands)			
Revenue:				
Subscriber-related revenue	$ 14,953,559	$ 14,495,091	$ 458,468	3.2
Equipment sales and other revenue	115,342	148,296	(32,954)	(22.2)
Total revenue	15,068,901	14,643,387	425,514	2.9
Costs and Expenses:				
Subscriber-related expenses	8,783,009	8,313,046	469,963	5.7
% of Subscriber-related revenue	**58.7 %**	**57.4 %**		
Satellite and transmission expenses	762,832	693,114	69,718	10.1
% of Subscriber-related revenue	**5.1 %**	**4.8 %**		
Cost of sales - equipment and other	91,654	107,777	(16,123)	(15.0)
Subscriber acquisition costs	1,682,548	1,811,318	(128,770)	(7.1)
General and administrative expenses	777,507	815,745	(38,238)	(4.7)
% of Total revenue	**5.2 %**	**5.6 %**		
FCC auction expense (Note 14)	515,555	—	515,555	*
Depreciation and amortization	1,000,048	1,077,936	(77,888)	(7.2)
Impairment of long-lived assets (Note 8)	123,352	—	123,352	*
Total costs and expenses	13,736,505	12,818,936	917,569	7.2
Operating income (loss)	1,332,396	1,824,451	(492,055)	(27.0)
Other Income (Expense):				
Interest income	19,523	61,841	(42,318)	(68.4)
Interest expense, net of amounts capitalized	(494,010)	(611,209)	117,199	19.2
Other, net	278,043	(69,341)	347,384	*
Total other income (expense)	(196,444)	(618,709)	422,265	68.2
Income (loss) before income taxes	1,135,952	1,205,742	(69,790)	(5.8)
Income tax (provision) benefit, net	(366,676)	(276,840)	(89,836)	(32.5)
Effective tax rate	**32.3 %**	**23.0 %**		
Net income (loss)	769,276	928,902	(159,626)	(17.2)
Less: Net income (loss) attributable to noncontrolling interests, net of tax	22,184	(15,791)	37,975	*
Net income (loss) attributable to DISH Network	$ 747,092	$ 944,693	$ (197,601)	(20.9)
Other Data:				
Pay-TV subscribers, as of period end (in millions)	13.897	13.978	(0.081)	(0.6)
Pay-TV subscriber additions, gross (in millions)	2.773	2.601	0.172	6.6
Pay-TV subscriber additions (losses), net (in millions)	(0.081)	(0.079)	(0.002)	(2.5)
Pay-TV average monthly subscriber churn rate (“Pay-TV churn rate”)	1.71 %	1.59 %	0.12 %	7.5
Pay-TV average subscriber acquisition cost per subscriber (“Pay-TV SAC”)	$ 723	$ 853	$ (130)	(15.2)
Pay-TV average monthly revenue per subscriber (“Pay-TV ARPU”)	$ 86.79	$ 83.77	$ 3.02	3.6
Broadband subscribers, as of period end (in millions)	0.623	0.577	0.046	8.0
Broadband subscriber additions, gross (in millions)	0.237	0.295	(0.058)	(19.7)
Broadband subscriber additions (losses), net (in millions)	0.046	0.141	(0.095)	(67.4)
EBITDA	$ 2,588,303	$ 2,848,837	$ (260,534)	(9.1)

* Percentage is not meaningful.

Pay-TV subscribers . We lost approximately 81,000 net Pay-TV subscribers during the year ended December 31, 2015, compared to the loss of approximately 79,000 net Pay-TV subscribers during the same period in 2014. The increase in net Pay-TV subscriber losses versus the same period in 2014 resulted from a higher Pay-TV churn rate discussed below, partially offset by higher gross new Pay-TV subscriber activations, primarily related to the activation of Sling branded pay-TV subscribers, which are reported net of disconnects. Our Sling domestic service was launched in February 2015.

Our Pay-TV churn rate for the year ended December 31, 2015 was 1.71% compared to 1.59% for the same period in 2014. Our Pay-TV churn rate increased during the year ended December 31, 2015 as a result of increased competitive pressures, including aggressive marketing, bundled discount offers combining broadband, video and/or wireless services and other discounted promotional offers, as well as cord cutting. Our Pay-TV churn rate is also impacted by, among other things, the credit quality of previously acquired subscribers, our ability to consistently provide outstanding customer service, price increases, programming interruptions in connection with the scheduled expiration of certain programming carriage contracts, our ability to control piracy and other forms of fraud and the level of our retention efforts.

During the year ended December 31, 2015, we activated approximately 2.773 million gross new Pay-TV subscribers compared to approximately 2.601 million gross new Pay-TV subscribers during the same period in 2014, an increase of 6.6%. The increase in our gross new Pay-TV subscriber activations primarily related to the activation of Sling branded pay-TV subscribers, which are reported net of disconnects, partially offset by stricter customer acquisition policies for our DISH branded pay-TV subscribers (including a focus on attaining higher quality subscribers) and increased competitive pressures, including aggressive marketing, more aggressive retention efforts, bundled discount offers combining broadband, video and/or wireless services and other discounted promotional offers. Furthermore, our gross new Pay-TV subscriber activations were negatively impacted by programming interruptions in connection with the scheduled expiration of certain programming carriage contracts during the first half of the first quarter 2015.

Broadband subscribers. We added approximately 46,000 net Broadband subscribers during the year ended December 31, 2015 compared to the addition of approximately 141,000 net Broadband subscribers during the same period in 2014. This decrease in net Broadband subscriber additions versus the same period in 2014 resulted from lower gross new Broadband subscriber activations and a higher number of customer disconnects. During the year ended December 31, 2015 and 2014, we activated approximately 237,000 and 295,000 gross new Broadband subscribers, respectively. Gross new Broadband subscriber activations declined primarily due to stricter customer acquisition policies and satellite capacity constraints in certain geographic areas. Customer disconnects were higher primarily due to a larger Broadband subscriber base during the year ended December 31, 2015 compared to the same period in 2014.

Subscriber-related revenue. "Subscriber-related revenue" totaled $14.954 billion for the year ended December 31, 2015, an increase of $458 million or 3.2% compared to the same period in 2014. The change in "Subscriber-related revenue" from the same period in 2014 was primarily related to the increase in Pay-TV ARPU discussed below and increased revenue from broadband services, partially offset by a lower average Pay-TV subscriber base. Included in "Subscriber-related revenue" was $439 million and $376 million of revenue related to our broadband services for the years ended December 31, 2015 and 2014, respectively, representing 2.9% and 2.6% of our total "Subscriber-related revenue," respectively.

Pay-TV ARPU. Pay-TV ARPU was $86.79 during the year ended December 31, 2015 versus $83.77 during the same period in 2014. The $3.02 or 3.6% increase in Pay-TV ARPU was primarily attributable to the DISH branded pay-TV programming package price increases in February 2015 and 2014 and higher hardware related revenue. These increases were partially offset by a shift in DISH branded pay-TV programming package mix, an increase in retention credits and an increase in Sling branded pay-TV subscribers. Sling branded pay-TV subscribers on average purchase lower priced programming services than DISH branded pay-TV subscribers. Accordingly, for the year ended December 31, 2015, the increase in Sling branded pay-TV subscribers had a negative impact on Pay-TV ARPU.

Subscriber-related expenses. "Subscriber-related expenses" totaled $8.783 billion during the year ended December 31, 2015, an increase of $470 million or 5.7% compared to the same period in 2014. The increase in "Subscriber-related expenses" was primarily attributable to higher programming costs and higher Broadband subscriber-related expenses due to the increase in our Broadband subscriber base, partially offset by a decrease in variable and retention costs per subscriber and a lower average Pay-TV subscriber base. The increase in programming costs was driven by rate increases in certain of our programming contracts, including the renewal of certain contracts at higher rates. Included in "Subscriber-related expenses" was $272 million and $242 million of expense related to our broadband services for the years ended December 31, 2015 and 2014, respectively. "Subscriber-related expenses" represented 58.7% and 57.4% of "Subscriber-related revenue" during the years ended December 31, 2015 and 2014, respectively. The change in this expense to revenue ratio primarily resulted from higher programming costs, discussed above.

Satellite and transmission expenses. "Satellite and transmission expenses" totaled $763 million during the year ended December 31, 2015, an increase of $70 million or 10.1% compared to the same period in 2014. The increase in "Satellite and transmission expenses" was primarily related to an increase in transmission costs associated with our Sling TV services and an increase in uplink costs and in transponder capacity leased from EchoStar, related to our DISH branded pay-TV service.

Subscriber acquisition costs. "Subscriber acquisition costs" totaled $1.683 billion for the year ended December 31, 2015, a decrease of $129 million or 7.1% compared to the same period in 2014. This change was primarily attributable to a decrease in Pay-TV SAC, discussed below, and a decrease in expense related to our Broadband subscriber activations. Included in "Subscriber acquisition costs" was $107 million and $136 million of expenses related to our broadband services for the years ended December 31, 2015 and 2014, respectively.

Pay-TV SAC. Pay-TV SAC was $723 during the year ended December 31, 2015 compared to $853 during the same period in 2014, a decrease of $130 or 15.2%. This change was primarily attributable to an increase in Sling branded pay-TV subscriber activations and a decrease in hardware costs per activation. The decrease in hardware costs per activation was driven by a reduction in manufacturing costs for current generation Hopper receiver systems and a higher percentage of remanufactured receivers being activated on new DISH branded pay-TV subscriber accounts.

During the years ended December 31, 2015 and 2014, the amount of equipment capitalized under our lease program for new DISH branded pay-TV subscribers totaled $429 million and $543 million, respectively. This decrease in capital expenditures under our lease program for new DISH branded pay-TV subscribers resulted primarily from a decrease in hardware costs per activation, discussed above.

FCC auction expense. On October 1, 2015, Northstar Wireless and SNR Wireless notified the FCC that they would not be paying the gross winning bid amounts on certain AWS-3 Licenses. As a result, the FCC retained those AWS-3 Licenses and Northstar Wireless and SNR Wireless owed the FCC an additional interim payment of approximately $516 million. See Note 14 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Depreciation and amortization. "Depreciation and amortization" expense totaled $1.000 billion during the year ended December 31, 2015, a $78 million or 7.2% decrease compared to the same period in 2014. During the year ended December 31, 2015, we had a decrease in depreciation expense from equipment leased to new and existing DISH branded pay-TV subscribers and from certain assets that support the DISH branded pay-TV service, which became fully depreciated during 2015. In addition, depreciation expense was lower in 2015 as a result of certain satellites transferred to EchoStar as part of the Satellite and Tracking Stock Transaction.

Impairment of long-lived assets. "Impairment of long-lived assets" of $123 million during the year ended December 31, 2015 resulted from an impairment of the D1 satellite and related ground equipment. See Note 8 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Interest expense, net of amounts capitalized. "Interest expense, net of amounts capitalized" totaled $494 million during the year ended December 31, 2015, a decrease of $117 million or 19.2% compared to the same period in 2014. This decrease was primarily related to an increase in capitalized interest principally associated with wireless spectrum and a reduction in interest expense from debt redemptions during 2015 and 2014, partially offset by interest expense associated with the issuance in November 2014 of our 5 7/8% Senior Notes due 2024. On October 27, 2015, the FCC granted the Northstar Licenses to Northstar Wireless and the SNR Licenses to SNR Wireless. We began capitalizing interest expense related to the commercialization of these wireless spectrum licenses in the fourth quarter 2015. See Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Other, net. "Other, net" income was $278 million during the year ended December 31, 2015, compared to expense of $69 million for the same period in 2014. The year ended December 31, 2015 was positively impacted by net realized and/or unrealized gains on our marketable investment securities and derivative financial instruments. The year ended December 31, 2014 was negatively impacted primarily by unrealized losses on our derivative financial instruments. See Note 6 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Earnings before interest, taxes, depreciation and amortization . EBITDA was $2.588 billion during the year ended December 31, 2015, a decrease of $261 million or 9.1% compared to the same period in 2014. EBITDA for the year ended December 31, 2015 was negatively impacted by the "FCC auction expense" of $516 million and "Impairment of long-lived assets" of $123 million, partially offset by the positive impact of "Other, net" income of $278 million. EBITDA for the year ended December 31, 2014 was negatively impacted by "Other, net" expense of $69 million. The following table reconciles EBITDA to the accompanying financial statements.

	For the Years Ended December 31,	
	2015	**2014**
	(In thousands)	
EBITDA	$ 2,588,303	$ 2,848,837
Interest, net	(474,487)	(549,368)
Income tax (provision) benefit, net	(366,676)	(276,840)
Depreciation and amortization	(1,000,048)	(1,077,936)
Net income (loss) attributable to DISH Network	$ 747,092	$ 944,693

EBITDA is not a measure determined in accordance with GAAP and should not be considered a substitute for operating income, net income or any other measure determined in accordance with GAAP. EBITDA is used as a measurement of operating efficiency and overall financial performance and we believe it to be a helpful measure for those evaluating companies in the pay-TV industry. Conceptually, EBITDA measures the amount of income generated each period that could be used to service debt, pay taxes and fund capital expenditures. EBITDA should not be considered in isolation or as a substitute for measures of performance prepared in accordance with GAAP.

Income tax (provision) benefit, net . Our income tax provision was $367 million during the year ended December 31, 2015 compared to $277 million in 2014. The increase in the provision was related to an increase in our effective tax rate, partially offset by a decrease in "Income (loss) before income taxes." Our effective tax rate during 2014 was favorably impacted by tax planning strategies related to the tax structure of certain foreign legal entities. During 2015, our effective tax rate was positively impacted by a $63 million credit that was previously recorded in "Accumulated other comprehensive income (loss)" and was released to our income tax provision during the year ended December 31, 2015. See Note 5 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

LIQUIDITY AND CAPITAL RESOURCES

Cash, Cash Equivalents and Current Marketable Investment Securities

We consider all liquid investments purchased within 90 days of their maturity to be cash equivalents. See Note 6 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information regarding our marketable investment securities. As of December 31, 2016, our cash, cash equivalents and current marketable investment securities totaled $5.359 billion compared to $1.611 billion as of December 31, 2015, an increase of $3.748 billion. This increase in cash, cash equivalents and current marketable investment securities primarily resulted from $4.973 billion in net proceeds from the issuance of our 7 3/4% Senior Notes due 2026 and the Convertible Notes due 2026, cash generated from operating activities of $2.802 billion and an $562 million settlement of our derivative financial instruments. These amounts were partially offset by the redemption of our 7 1/8% Senior Notes with an aggregate principal balance of $1.5 billion, capital expenditures of $1.327 billion (including capitalized interest related to FCC authorizations), $260 million in net cost incurred in connection with the convertible note hedge and warrant transactions and a refundable payment to a third party in connection with a potential asset purchase.

Debt Maturity

Our 7 3/4% Senior Notes with a remaining principal balance of $650 million were redeemed on June 1, 2015.

Our 7 1/8% Senior Notes with an aggregate principal balance of $1.5 billion were redeemed on February 1, 2016.

Our 4 5/8% Senior Notes with an aggregate principal balance of $900 million mature on July 15, 2017. We expect to fund this obligation from cash and marketable investment securities balances at that time. But, depending on market conditions, we may refinance this obligation in whole or in part.

Cash Flow

The following discussion highlights our cash flow activities during the years ended December 31, 2016, 2015 and 2014.

Cash flows from operating activities. We typically reinvest the cash flow from operating activities in our business primarily to grow our subscriber base, expand our infrastructure, make strategic investments and repay debt obligations. For the years ended December 31, 2016, 2015 and 2014, we reported "Net cash flows from operating activities" of $2.802 billion, $2.436 billion, and $2.378 billion, respectively.

Net cash flows from operating activities from 2015 to 2016 increased $366 million, primarily attributable to a $999 million increase in income adjusted to exclude non-cash charges for "Realized and unrealized losses (gains) on investments," "Depreciation and amortization" expense, "Impairment of long-lived assets" and "Deferred tax expense (benefit)," partially offset by an increase in cash outflows resulting from changes in operating assets and liabilities principally attributable to timing differences between book expense and cash payments, including income taxes.

Net cash flows from operating activities from 2014 to 2015 increased $58 million, primarily attributable to an increase in cash resulting from changes in operating assets and liabilities principally attributable to timing differences between book expense and cash payments, including income taxes. This increase was partially offset by a $390 million decrease in income adjusted to exclude non-cash charges for "Realized and unrealized losses (gains) on investments," "Impairment of long-lived assets," "Depreciation and amortization" expense and "Deferred tax expense (benefit)." Included in this amount is the $516 million payment related to the "FCC auction expense."

Cash flows from investing activities. Our investing activities generally include purchases and sales of marketable investment securities, acquisitions, strategic investments, including purchases and settlements of derivative financial instruments and purchases of spectrum licenses, and cash used to grow our subscriber base and expand our infrastructure. For the years ended December 31, 2016, 2015 and 2014, we reported outflows from "Net cash flows from investing activities" of $1.729 billion, $8.074 billion and $963 million, respectively. During the years ended December 31, 2016, 2015 and 2014, capital expenditures for new and existing DISH branded pay-TV customer equipment totaled $446 million, $573 million and $755 million, respectively. During the years ended December 31, 2016, 2015 and 2014, capital expenditures for new and existing broadband customer equipment totaled $12 million, $25 million and $51 million, respectively, of which $10 million, $23 million and $48 million was for new broadband customer equipment.

The year ended December 31, 2016 was negatively impacted by cash outflows primarily related to capital expenditures of $1.327 billion (including capitalized interest related to FCC authorizations) and a refundable payment to a third party in connection with a potential asset purchase, partially offset by an $562 million settlement of our derivative financial instruments and $524 million in net sales of marketable investment securities. The year ended December 31, 2015 was negatively impacted by cash outflows associated with our non-controlling investments in the Northstar Entities and the SNR Entities related to the AWS-3 Licenses of $8.970 billion and "Purchases of property and equipment (including capitalized interest related to FCC authorizations)" of $1.114 billion, partially offset by net sales of marketable investment securities of $1.607 billion and a refund from the FCC of our $400 million upfront payment related to the AWS-3 Auction in 2015. The year ended December 31, 2014 was negatively impacted by purchases of H Block wireless spectrum licenses of $1.343 billion, AWS-3 Auction deposits of $1.320 billion and "Purchases of property and equipment (including capitalized interest related to FCC authorizations)" of $1.216 billion, partially offset by net sales of marketable investment securities of $2.935 billion.

Cash flows from financing activities. Our financing activities generally include net proceeds related to the issuance of long-term debt, cash used for the repurchase, redemption or payment of long-term debt and capital lease obligations, dividends paid on our Class A and Class B common stock and repurchases of our Class A common stock. For the year ended December 31, 2016, we reported inflows from "Net cash flows from financing activities" of $3.197 billion. For the year ended December 31, 2015, we reported outflows from "Net cash flows from financing activities" of $413 million. For the year ended December 31, 2014, we reported inflows from "Net cash flows from financing activities" of $980 million.

The net cash inflows in 2016 primarily related to $4.973 billion in net proceeds from the issuance of our 7 3/4% Senior Notes due 2026 and the Convertible Notes due 2026, partially offset by the redemption of our 7 1/8% Senior Notes with an aggregate principal balance of $1.5 billion and $260 million in net cost incurred in connection with the convertible note hedge and warrant transactions.

The net cash outflows in 2015 primarily related to the redemption of our 7 3/4% Senior Notes due 2015 of $650 million, partially offset by $204 million in aggregate capital contributions to Northstar Spectrum and SNR HoldCo from Northstar Manager and SNR Management, respectively.

The net cash inflows in 2014 primarily resulted from net proceeds of $1.992 billion from the issuance in November 2014 of our 5 7/8% Senior Notes due 2024, partially offset by the repurchases and redemption of our 6 5/8% Senior Notes due 2014 of $1.0 billion and repurchases of our 7 3/4% Senior Notes due 2015 of $100 million in open market trades.

Free Cash Flow

We define free cash flow as "Net cash flows from operating activities" less "Purchases of property and equipment," and "Capitalized interest related to FCC authorizations," as shown on our Consolidated Statements of Cash Flows. We believe free cash flow is an important liquidity metric because it measures, during a given period, the amount of cash generated that is available to repay debt obligations, make investments, fund acquisitions and for certain other activities. Free cash flow is not a measure determined in accordance with GAAP and should not be considered a substitute for "Operating income," "Net income," "Net cash flows from operating activities" or any other measure determined in accordance with GAAP. Since free cash flow includes investments in operating assets, we believe this non-GAAP liquidity measure is useful in addition to the most directly comparable GAAP measure "Net cash flows from operating activities."

Free cash flow can be significantly impacted from period to period by changes in operating assets and liabilities and in "Purchases of property and equipment" as shown in the "Net cash flows from operating activities" and "Net cash flows from investing activities" sections, respectively, of our Consolidated Statements of Cash Flows included herein. Operating asset and liability balances can fluctuate significantly from period to period and there can be no assurance that free cash flow will not be negatively impacted by material changes in operating assets and liabilities in future periods, since these changes depend upon, among other things, management's timing of payments and control of inventory levels, and cash receipts. In addition to fluctuations resulting from changes in operating assets and liabilities, free cash flow can vary significantly from period to period depending upon, among other things, subscriber growth, subscriber revenue, subscriber churn, subscriber acquisition and retention costs including amounts capitalized under our equipment lease programs, operating efficiencies, increases or decreases in purchases of property and equipment, commercialization of our wireless spectrum and other factors.

The following table reconciles free cash flow to "Net cash flows from operating activities."

	For the Years Ended December 31,		
	2016	2015	2014
	(In thousands)		
Free cash flow	$ 1,474,802	$ 1,321,703	$ 1,162,263
Add back:			
Purchases of property and equipment (including capitalized interest related to FCC authorizations)	1,327,350	1,114,377	1,215,861
Net cash flows from operating activities	$ 2,802,152	$ 2,436,080	$ 2,378,124

Operational Liquidity

We make general investments in property such as satellites, set-top boxes, information technology and facilities that support our overall business. Moreover, since we are primarily a subscriber-based company, we also make subscriber-specific investments to acquire new subscribers and retain existing subscribers. While the general investments may be deferred without impacting the business in the short-term, the subscriber-specific investments are less discretionary. Our overall objective is to generate sufficient cash flow over the life of each subscriber to provide an adequate return against the upfront investment. Once the upfront investment has been made for each subscriber, the subsequent cash flow is generally positive, but there can be no assurances that over time we will recoup or earn a return on the upfront investment.

There are a number of factors that impact our future cash flow compared to the cash flow we generate at a given point in time. The first factor is our Pay-TV churn rate and how successful we are at retaining our current Pay-TV subscribers. As we lose Pay-TV subscribers from our existing base, the positive cash flow from that base is correspondingly reduced. The second factor is how successful we are at maintaining our subscriber-related margins. To the extent our "Subscriber-related expenses" grow faster than our "Subscriber-related revenue," the amount of cash flow that is generated per existing subscriber is reduced. The third factor is the rate at which we acquire new subscribers. The faster we acquire new subscribers, the more our positive ongoing cash flow from existing subscribers is offset by the negative upfront cash flow associated with acquiring new subscribers. Finally, our future cash flow is impacted by the rate at which we make general investments and any cash flow from financing activities.

Our subscriber-specific investments to acquire new subscribers have a significant impact on our cash flow. While fewer subscribers will likely translate into lower ongoing cash flow in the long-term, cash flow is actually aided, in the short-term, by the reduction in subscriber-specific investment spending. As a result, a slow-down in our business due to external or internal factors does not introduce the same level of short-term liquidity risk as it might in other industries.

Subscriber Base

We lost approximately 392,000 net Pay-TV subscribers during the year ended December 31, 2016, compared to the loss of approximately 81,000 net Pay-TV subscribers during the same period in 2015. The increase in net Pay-TV subscriber losses versus the same period in 2015 resulted from a higher Pay-TV churn rate and lower gross new Pay-TV subscriber activations. See "Results of Operations" above for further information.

Subscriber Acquisition and Retention Costs

We incur significant upfront costs to acquire subscribers, including advertising, independent third-party retailer incentives, equipment subsidies, installation services, and/or new customer promotions. While we attempt to recoup these upfront costs over the lives of their subscription, there can be no assurance that we will be successful in achieving that objective. With respect to our DISH branded pay-TV service, we employ business rules such as minimum credit requirements for prospective customers and contractual commitments to receive service for a minimum term. We strive to provide outstanding customer service, to increase the likelihood of customers keeping their Pay-TV services over longer periods of time. Subscriber acquisition costs for Sling branded pay-TV subscribers are significantly lower than those for DISH branded pay-TV subscribers, and therefore, as Sling branded pay-TV subscriber activations increase, it will have a positive impact on subscriber acquisition costs. Our subscriber acquisition costs may vary significantly from period to period.

We incur significant costs to retain our existing DISH branded pay-TV customers, mostly by upgrading their equipment to HD and DVR receivers and by providing retention credits. As with our subscriber acquisition costs, our retention upgrade spending includes the cost of equipment and installation services. In certain circumstances, we also offer programming at no additional charge and/or promotional pricing for limited periods to existing customers in exchange for a contractual commitment to receive service for a minimum term. A component of our retention efforts includes the installation of equipment for customers who move. Our subscriber retention costs may vary significantly from period to period.

Seasonality

Historically, the first half of the year generally produces fewer gross new Pay-TV subscriber activations than the second half of the year, as is typical in the pay-TV industry. In addition, the first and fourth quarters generally produce a lower churn rate than the second and third quarters. However, we cannot provide assurance that this will continue in the future.

Satellites

Operation of our DISH branded pay-TV service requires that we have adequate satellite transmission capacity for the programming that we offer. Moreover, current competitive conditions require that we continue to expand our offering of new programming. While we generally have had in-orbit satellite capacity sufficient to transmit our existing channels and some backup capacity to recover the transmission of certain critical programming, our backup capacity is limited. In the event of a failure or loss of any of our owned or leased satellites, we may need to acquire or lease additional satellite capacity or relocate one of our other satellites and use it as a replacement for the failed or lost satellite. Such a failure could result in a prolonged loss of critical programming or a significant delay in our plans to expand programming as necessary to remain competitive and cause us to expend a significant portion of our cash to acquire or lease additional satellite capacity.

Security Systems

Increases in theft of our signal or our competitors' signals could, in addition to reducing gross new subscriber activations, also cause subscriber churn to increase. We use Security Access Devices in our DBS receiver systems to control access to authorized programming content. Our signal encryption has been compromised in the past and may be compromised in the future even though we continue to respond with significant investment in security measures, such as Security Access Device replacement programs and updates in security software, that are intended to make signal theft more difficult. It has been our prior experience that security measures may only be effective for short periods of time or not at all and that we remain susceptible to additional signal theft. We expect that future replacements of Security Access Devices may be necessary to keep our system secure. We cannot ensure that we will be successful in reducing or controlling theft of our programming content and we may incur additional costs in the future if our system's security is compromised.

Stock Repurchases

Our Board of Directors previously authorized stock repurchases of up to $1.0 billion of our outstanding Class A common stock through and including December 31, 2016. On November 2, 2016, our Board of Directors extended this authorization such that we are currently authorized to repurchase up to $1.0 billion of our outstanding Class A common stock through and including December 31, 2017. As of December 31, 2016, we may repurchase up to $1.0 billion of our Class A common stock under this program. During the years ended December 31, 2016, 2015 and 2014, there were no repurchases of our Class A common stock.

Covenants and Restrictions Related to our Long-Term Debt

We are subject to the covenants and restrictions set forth in the indentures related to our long-term debt. In particular, the indentures related to our outstanding senior notes issued by DISH DBS Corporation ("DISH DBS") contain restrictive covenants that, among other things, impose limitations on the ability of DISH DBS and its restricted subsidiaries to: (i) incur additional indebtedness; (ii) enter into sale and leaseback transactions; (iii) pay dividends or make distributions on DISH DBS' capital stock or repurchase DISH DBS' capital stock; (iv) make certain investments; (v) create liens; (vi) enter into certain transactions with affiliates; (vii) merge or consolidate with another company; and (viii) transfer or sell assets. Should we fail to comply with these covenants, all or a portion of the debt under the senior notes and our other long-term debt could become immediately payable. The senior notes also provide that the debt may be required to be prepaid if certain change-in-control events occur. In addition, the Convertible Notes due 2026 provide that, if a "fundamental change" (as defined in the related indenture) occurs, holders may require us to repurchase for cash all or part of their Convertible Notes due 2026. As of the date of filing of this Annual Report on Form 10-K, we and DISH DBS were in compliance with the covenants and restrictions related to our respective long-term debt.

Other

We are also vulnerable to fraud, particularly in the acquisition of new subscribers. While we are addressing the impact of subscriber fraud through a number of actions, there can be no assurance that we will not continue to experience fraud, which could impact our subscriber growth and churn. Economic weakness may create greater incentive for signal theft, piracy and subscriber fraud, which could lead to higher subscriber churn and reduced revenue.

Obligations and Future Capital Requirements

Contractual Obligations and Off-Balance Sheet Arrangements

As of December 31, 2016, future maturities of our long-term debt, capital lease and contractual obligations are summarized as follows:

	Payments due by period						
	Total	2017	2018	2019	2020	2021	Thereafter
				(In thousands)			
Long-term debt obligations	$ 17,147,844	$ 904,168	$ 1,204,274	$ 1,404,385	$ 1,104,503	$ 2,004,626	$ 10,525,888
Capital lease obligations	136,146	33,412	36,260	19,503	19,137	20,615	7,219
Interest expense on long-term debt and capital lease obligations	6,013,072	983,130	903,456	875,684	736,096	639,190	1,875,516
Satellite-related obligations	1,615,590	382,348	348,617	301,102	241,371	208,196	133,956
Operating lease obligations	139,673	41,334	25,266	18,954	13,728	9,332	31,059
Purchase obligations	2,202,987	1,765,669	275,669	130,230	16,386	8,833	6,200
Total	$ 27,255,312	$ 4,110,061	$ 2,793,542	$ 2,749,858	$ 2,131,221	$ 2,890,792	$ 12,579,838

In certain circumstances the dates on which we are obligated to make these payments could be delayed. These amounts will increase to the extent that we procure launch and/or in-orbit insurance on our satellites or contract for the construction, launch or lease of additional satellites.

The table above does not include $357 million of liabilities associated with unrecognized tax benefits that were accrued, as discussed in Note 10 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K, and are included on our Consolidated Balance Sheets as of December 31, 2016. We do not expect any portion of this amount to be paid or settled within the next twelve months.

Other than the "Guarantees" disclosed in Note 14 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K, we generally do not engage in off-balance sheet financing activities.

Satellite Insurance

We generally do not carry commercial launch or in-orbit insurance on any of the satellites we use, other than certain satellites leased from third parties. We generally do not use commercial insurance to mitigate the potential financial impact of launch or in-orbit failures because we believe that the cost of insurance premiums is uneconomical relative to the risk of such failures. In light of current favorable market conditions, in January 2016, we procured commercial launch and in-orbit insurance (for a period of one year following launch) for the EchoStar XVIII satellite, which was launched on June 18, 2016. We lease substantially all of our satellite capacity from third parties, including the vast majority of our transponder capacity from EchoStar, and we do not carry commercial insurance on any of the satellites we lease from them. While we generally have had in-orbit satellite capacity sufficient to transmit our existing channels and some backup capacity to recover the transmission of certain critical programming, our backup capacity is limited. In the event of a failure or loss of any of our owned or leased satellites, we may need to acquire or lease additional satellite capacity or relocate one of our other owned or leased satellites and use it as a replacement for the failed or lost satellite.

Purchase Obligations

Our 2017 purchase obligations primarily consist of binding purchase orders for receiver systems and related equipment, broadband equipment, digital broadcast operations, transmission costs, engineering services, and other products and services related to the operation of our Pay-TV services and broadband service. Our purchase obligations also include certain fixed contractual commitments to purchase programming content. Our purchase obligations can fluctuate significantly from period to period due to, among other things, management's timing of payments and inventory purchases, and can materially impact our future operating asset and liability balances, and our future working capital requirements.

Programming Contracts

In the normal course of business, we enter into contracts to purchase programming content in which our payment obligations are generally contingent on the number of Pay-TV subscribers to whom we provide the respective content. These programming commitments are not included in the "Commitments" table above. The terms of our contracts typically range from one to ten years with annual rate increases. Our programming expenses will continue to increase to the extent we are successful in growing our Pay-TV subscriber base. In addition, programming costs continue to increase due to contractual price increases and the renewal of long-term programming contracts on less favorable pricing terms.

Future Capital Requirements

We expect to fund our future working capital, capital expenditures and debt service requirements from cash generated from operations, existing cash, cash equivalents and marketable investment securities balances, and cash generated through raising additional capital. The amount of capital required to fund our future working capital and capital expenditure needs varies, depending on, among other things, the rate at which we acquire new subscribers and the cost of subscriber acquisition and retention, including capitalized costs associated with our new and existing subscriber equipment lease programs. The majority of our capital expenditures for 2017, with the exception of the commercialization of our existing wireless spectrum licenses and potential purchase of additional wireless spectrum licenses discussed below, are expected to be driven by the costs associated with subscriber premises equipment and capital expenditures for our satellite-related obligations. These expenditures are necessary to operate and maintain our Pay-TV services. Consequently, we consider them to be non-discretionary. The amount of capital required will also depend on the levels of investment necessary to support potential strategic initiatives that may arise from time to time. Our capital expenditures vary depending on the number of satellites leased or under construction at any point in time, and could increase materially as a result of increased competition, significant satellite failures, or economic weakness and uncertainty. Our Pay-TV subscriber base has been declining and there can be no assurance that our Pay-TV subscriber base will not continue to decline. In the event that our Pay-TV subscriber base continues to decline, it could have a material adverse long-term effect on our cash flow. These factors, including a reduction in our available future cash flows, could require that we raise additional capital in the future.

Volatility in the financial markets has made it more difficult at times for issuers of high-yield indebtedness, such as us, to access capital markets at acceptable terms. These developments may have a significant effect on our cost of financing and our liquidity position.

Wireless

DISH Network Spectrum. We have invested over $5.0 billion since 2008 to acquire certain wireless spectrum licenses and related assets. We will need to make significant additional investments or partner with others to, among other things, commercialize, build-out, and integrate these licenses and related assets, and any additional acquired licenses and related assets; and comply with regulations applicable to such licenses. Depending on the nature and scope of such commercialization, build-out, integration efforts, and regulatory compliance, any such investments or partnerships could vary significantly. In addition, as we consider our options for the commercialization of our wireless spectrum, we may incur significant additional expenses and may have to make significant investments related to, among other things, research and development, wireless testing and wireless network infrastructure. We may also determine that additional wireless spectrum licenses may be required to commercialize our wireless business and to compete with other wireless service providers.

Auction 1000. On February 10, 2016, we filed an application with the FCC to potentially participate as a bidder in the forward auction phase of Auction 1000. The available spectrum in each licensed geographic area in Auction 1000 is generally comprised of certain paired 5x5 spectrum blocks (5 MHz uplink spectrum and 5 MHz downlink spectrum). As a result, a nationwide footprint may be obtained by aggregating a single 5x5 spectrum block in each available licensed geographic area.

Auction 1000 has had multiple stages, with each stage having two phases. With respect to each stage, in the first phase, or reverse auction phase, participating television broadcasters "sell" their rights to use certain broadcast television spectrum in the 600 MHz frequency range to the FCC. Then following the first phase of a stage, in the second phase, or forward auction phase, the FCC will "resell" that spectrum to auction participants. In the event that certain criteria are not met within a particular stage for Auction 1000 to conclude, Auction 1000 then proceeds to a subsequent stage with less available spectrum than the immediately preceding stage and lower spectrum clearing targets.

Before the forward auction phase of Stage 1 of Auction 1000 began, a qualified bidder in the forward auction could make an upfront deposit of up to approximately $5.4 billion. On July 15, 2016, the FCC announced that a subsidiary of DISH Network and 61 other applicants were qualified to participate in the forward auction. The FCC determined that bidding in Auction 1000 will be "anonymous," which means that prior to and during the course of the auction, the FCC will not make public any information about a specific applicant's upfront deposits or its bids. In addition, FCC rules restrict information that applicants may disclose about their participation in Auction 1000.

- *Stage 1:* The reverse auction phase of Stage 1 began on March 29, 2016 and ended on June 29, 2016. Pursuant to the FCC's procedures for Auction 1000 and based on the results of the reverse auction phase of Stage 1, in order for Auction 1000 to have ultimately concluded, the aggregate bids in the forward auction phase of Stage 1 would have had to have exceeded approximately $88.4 billion. The forward auction phase of Stage 1 included 100 MHz of spectrum in over 90% of the available licensed geographic areas, based on the broadcasters' indicated availability of spectrum in the reverse auction phase. The forward auction phase of Stage 1 began on August 16, 2016 and ended on August 30, 2016, but the aggregate bids of approximately $23.1 billion did not exceed the approximately $88.4 billion required for Auction 1000 to ultimately conclude. As a result, Auction 1000 moved to Stage 2.

- *Stage 2:* The reverse auction phase of Stage 2 began on September 13, 2016 and ended on October 13, 2016. Pursuant to the FCC's procedures for Auction 1000 and based on the results of the reverse auction phase of Stage 2, in order for Auction 1000 to have ultimately concluded, the aggregate bids in the forward auction phase of Stage 2 would have had to have exceeded approximately $56.5 billion. The forward auction phase of Stage 2 included 90 MHz of spectrum in over 90% of the available licensed geographic areas, based on the broadcasters' indicated availability of spectrum in the reverse auction phase. The forward auction phase of Stage 2 began and ended on October 19, 2016, but the aggregate bids of approximately $21.5 billion did not exceed the approximately $56.5 billion required for Auction 1000 to ultimately conclude. As a result, Auction 1000 moved to Stage 3.

- *Stage 3:* The reverse auction phase of Stage 3 began on November 1, 2016 and ended on December 1, 2016. Pursuant to the FCC's procedures for Auction 1000 and based on the results of the reverse auction phase of Stage 3, in order for Auction 1000 to have ultimately concluded, the aggregate bids in the forward auction phase of Stage 3 would have had to have exceeded approximately $42.3 billion. The forward auction phase of Stage 3 included 80 MHz of spectrum in over 90% of the available licensed geographic areas, based on the broadcasters' indicated availability of spectrum in the reverse auction phase. The forward auction phase of Stage 3 began and ended on December 5, 2016, but the aggregate bids of approximately $19.7 billion did not exceed the approximately $42.3 billion required for Auction 1000 to ultimately conclude. As a result, Auction 1000 moved to Stage 4.

- Stage 4: The reverse auction phase of Stage 4 began on December 13, 2016 and ended on January 13, 2017. Pursuant to the FCC's procedures for Auction 1000 and based on the results of the reverse auction phase of Stage 4, in order for Auction 1000 to ultimately conclude, the aggregate bids in the forward auction phase of Stage 4 would have to exceed approximately $12.0 billion. The forward auction phase of Stage 4 includes 70 MHz of spectrum in over 90% of the available licensed geographic areas, based on the broadcasters' indicated availability of spectrum in the reverse auction phase. The clock bidding portion of the forward auction phase of Stage 4 began on January 18, 2017 and ended on February 10, 2017. The aggregate bids of approximately $19.6 billion exceeded the approximately $12.0 billion required for Auction 1000 to ultimately conclude. As a result, Auction 1000 moved to the assignment portion of the forward auction phase in which winning bidders in the clock bidding portion have the opportunity to bid for frequency-specific licenses. The assignment portion is scheduled to begin on March 6, 2017, and all assignment rounds are expected to end no later than March 30, 2017. During the assignment portion, the FCC rules restricting information that forward auction applicants may disclose about their participation in Auction 1000 remain in place. As mentioned above, a subsidiary of DISH Network qualified to participate in the forward auction. To the extent that it is the winning bidder for any 600 MHz licenses, we would expect to pay for such licenses from any upfront deposit made with the FCC and/or existing cash and marketable investment securities balances.

See Note 14 " *Commitments and Contingencies — Wireless — DISH Network Spectrum* " in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

DISH Network Non-Controlling Investments in the Northstar Entities and the SNR Entities Related to AWS-3 Wireless Spectrum Licenses. Through our wholly-owned subsidiaries American II and American III, we have made over $10.0 billion in certain non-controlling investments in Northstar Spectrum, the parent company of Northstar Wireless, and in SNR HoldCo, the parent company of SNR Wireless, respectively. On October 27, 2015, the FCC granted the Northstar Licenses to Northstar Wireless and the SNR Licenses to SNR Wireless, respectively, which are recorded in "FCC authorizations" on our Consolidated Balance Sheets. Under the applicable accounting guidance in ASC 810, Northstar Spectrum and SNR HoldCo are considered variable interest entities and, based on the characteristics of the structure of these entities and in accordance with the applicable accounting guidance, we have consolidated these entities into our financial statements beginning in the fourth quarter 2014. See Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information. The AWS-3 Licenses are subject to certain interim and final build-out requirements. We may need to make significant additional loans to the Northstar Entities and to the SNR Entities, or they may need to partner with others, so that the Northstar Entities and the SNR Entities may commercialize, build-out and integrate the Northstar Licenses and the SNR Licenses, and comply with regulations applicable to the Northstar Licenses and the SNR Licenses. Depending upon the nature and scope of such commercialization, build-out, integration efforts, and regulatory compliance, any such loans or partnerships could vary significantly. See Note 14 " *Commitments and Contingencies — Wireless — DISH Network Non-Controlling Investments in the Northstar Entities and the SNR Entities Related to AWS-3 Wireless Spectrum Licenses* " in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

We may need to raise significant additional capital in the future to fund the efforts described above, which may not be available on acceptable terms or at all. There can be no assurance that we, the Northstar Entities and/or the SNR Entities will be able to develop and implement business models that will realize a return on these wireless spectrum licenses or that we, the Northstar Entities and/or the SNR Entities will be able to profitably deploy the assets represented by these wireless spectrum licenses, which may affect the carrying amount of these assets and our future financial condition or results of operations. See Note 14 " *Commitments and Contingencies — Wireless* " in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Availability of Credit and Effect on Liquidity

The ability to raise capital has generally existed for us despite economic weakness and uncertainty. While modest fluctuations in the cost of capital will not likely impact our current operational plans, significant fluctuations could have a material adverse effect on our business, results of operations and financial condition.

Critical Accounting Estimates

The preparation of the consolidated financial statements in conformity with GAAP requires management to make estimates, judgments and assumptions that affect amounts reported therein. Management bases its estimates, judgments and assumptions on historical experience and on various other factors that are believed to be reasonable under the circumstances. Actual results may differ from previously estimated amounts, and such differences may be material to our consolidated financial statements. Estimates and assumptions are reviewed periodically, and the effects of revisions are reflected prospectively in the period they occur. The following represent what we believe are the critical accounting policies that may involve a high degree of estimation, judgment and complexity. For a summary of our significant accounting policies, including those discussed below, see Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K.

- ***Capitalized premise equipment*** . Since we retain ownership of certain equipment provided pursuant to our subscriber equipment lease programs for Pay-TV and Broadband subscribers, we capitalize and depreciate equipment costs that would otherwise be expensed at the time of sale. Such capitalized costs are depreciated over the estimated useful life of the equipment, which is based on, among other things, management's judgment of the risk of technological obsolescence. Because of the inherent difficulty of making this estimate, the estimated useful life of capitalized equipment may change based on, among other things, historical experience and changes in technology as well as our response to competitive conditions. Changes in estimated useful life may impact "Depreciation and amortization" on our Consolidated Statements of Operations and Comprehensive Income (Loss). For example, if we had decreased the estimated useful life of our capitalized subscriber equipment by one year, annual 2016 depreciation expense would have increased by approximately $165 million.

- ***Accounting for investments in private and publicly-traded securities*** . We hold debt and equity interests in companies, some of which are publicly traded and have highly volatile prices. We record an investment impairment charge in "Other, net" within "Other Income (Expense)" on our Consolidated Statements of Operations and Comprehensive Income (Loss) when we believe an investment has experienced a decline in value that is judged to be other-than-temporary. We monitor our investments for impairment by considering current factors including economic environment, market conditions and the operational performance and other specific factors relating to the business underlying the investment. Future adverse changes in these factors could result in losses or an inability to recover the carrying amount of the investments that may not be reflected in an investment's current carrying amount, thereby possibly requiring an impairment charge in the future.

- ***Valuation of long-lived assets*** . We review our long-lived assets and identifiable finite-lived intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. For assets which are held and used in operations, the asset would be impaired if the carrying amount of the asset (or asset group) exceeded its undiscounted future net cash flows. Once an impairment is determined, the actual impairment recognized is the difference between the carrying amount and the fair value as estimated using one of the following approaches: income, cost and/or market. The carrying amount of a long-lived asset or asset group is considered impaired when the anticipated undiscounted cash flows from such asset or asset group is less than its carrying amount. In that event, a loss is recorded in "Impairment of long-lived assets" on our Consolidated Statements of Operations and Comprehensive Income (Loss) based on the amount by which the carrying amount exceeds the fair value of the long-lived asset or asset group. Fair value, using the income approach, is determined primarily using a discounted cash flow model that uses the estimated cash flows associated with the asset or asset group under review, discounted at a rate commensurate with the risk involved. Fair value, utilizing the cost approach, is determined based on the replacement cost of the asset reduced for, among other things, depreciation and obsolescence. Fair value, utilizing the market approach, benchmarks the fair value against the carrying amount. See Note 8 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K. Assets which are to be disposed of are reported at the lower of the carrying amount or fair value less costs to sell. We currently evaluate our DBS satellite fleet for impairment as one asset group whenever events or changes in circumstances indicate that its carrying amount may not be recoverable.

- ***Valuation of intangible assets with indefinite lives*** . We evaluate the carrying amount of intangible assets with indefinite lives annually, and also when events and circumstances warrant. During 2016 and 2015, we performed a qualitative assessment to determine whether it is more likely than not that the indefinite-lived asset's fair value exceeds its carrying amount. In our assessment, we assess relevant qualitative factors, including macroeconomic conditions, overall financial performance, industry and market conditions, relevant company specific events, and perception of the market. When our qualitative assessment is inconclusive, further analysis is required. During 2014, we assessed these assets quantitatively by using one of the income, cost, and/or market approaches. While our qualitative assessment for 2016 and 2015 indicated the fair value of our intangible assets exceeded their carrying amounts, significant changes in our quantitative estimates of future cash flows or market data could result in a write-down of intangible assets with indefinite lives in a future period, which will be recorded in a line item entitled "Impairment of long-lived assets," on our Consolidated Statements of Operations and Comprehensive Income (Loss) and could be material to our consolidated results of operations and financial condition. Based on the quantitative methodology utilized in 2014 to test for impairment, a 10% decrease in the estimated future cash flows or market value of comparable assets and/or, a 10% increase in the discount rate used in estimating the fair value of these assets (while all other assumptions remain unchanged) did not result in these assets being impaired.

- ***Income taxes*** . Our income tax policy is to record the estimated future tax effects of temporary differences between the tax bases of assets and liabilities and amounts reported in the accompanying consolidated balance sheets, as well as operating loss and tax credit carryforwards. Determining necessary valuation allowances requires us to make assessments about the timing of future events, including the probability of expected future taxable income and available tax planning opportunities. We periodically evaluate our need for a valuation allowance based on both historical evidence, including trends, and future expectations in each reporting period. Any such valuation allowance is recorded in either "Income tax (provision) benefit, net" on our Consolidated Statements of Operations and Comprehensive Income (Loss) or "Accumulated other comprehensive income (loss)" within "Stockholders' equity (deficit)" on our Consolidated Balance Sheets. Future performance could have a significant effect on the realization of tax benefits, or reversals of valuation allowances, as reported in our consolidated results of operations.

- ***Uncertainty in tax positions*** . Management evaluates the recognition and measurement of uncertain tax positions based on applicable tax law, regulations, case law, administrative rulings and pronouncements and the facts and circumstances surrounding the tax position. Changes in our estimates related to the recognition and measurement of the amount recorded for uncertain tax positions could result in significant changes in our "Income tax provision (benefit), net," which could be material to our consolidated results of operations.

- ***Contingent liabilities*** . A significant amount of management judgment is required in determining when, or if, an accrual should be recorded for a contingency and the amount of such accrual. Estimates generally are developed in consultation with counsel and are based on an analysis of potential outcomes. Due to the uncertainty of determining the likelihood of a future event occurring and the potential financial statement impact of such an event, it is possible that upon further development or resolution of a contingent matter, a charge could be recorded in a future period to "General and administrative expenses" or "Litigation expense" on our Consolidated Statements of Operations and Comprehensive Income (Loss) that would be material to our consolidated results of operations and financial condition.

- ***Business combinations.*** When we acquire a business, we allocate the purchase price to the various components of the acquisition based upon the fair value of each component using various valuation techniques, including the market approach, income approach and/or cost approach. The accounting standard for business combinations requires most identifiable assets, liabilities, noncontrolling interests and goodwill acquired to be recorded at estimated fair value. Determining the fair value of assets acquired and liabilities assumed requires management's judgment and often involves the use of significant estimates and assumptions, including assumptions with respect to the estimated future cash flows, discounted at a rate commensurate with the risk involved or the market approach.

Inflation

Inflation has not materially affected our operations during the past three years. We believe that our ability to increase the prices charged for our products and services in future periods will depend primarily on competitive pressures.

Backlog

We do not have any material backlog of our products.

New Accounting Pronouncements

Revenue from Contracts with Customers. On May 28, 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update 2014-09 *Revenue from Contracts with Customers* ("ASU 2014-09"), and has modified the standard thereafter. On July 9, 2015, the FASB approved a one year deferral on the effective date for implementation of this standard, which changed the effective date for us to January 1, 2018. This converged standard on revenue recognition was issued jointly with the International Accounting Standards Board to create common revenue recognition guidance for GAAP and International Financial Reporting Standards. ASU 2014-09 provides a framework for revenue recognition that replaces most existing GAAP revenue recognition guidance when it becomes effective. ASU 2014-09 allows for either a full retrospective or modified retrospective adoption. We are evaluating the effect that ASU 2014-09 will have on our consolidated financial statements and related disclosures. We have not yet selected an adoption method. While we have not determined the effect of the standard on our ongoing financial reporting, we believe that the standard will, among other things, change the allocation and timing of when revenue is recognized for those customers who have a contractual commitment to receive service for a minimum term, including time-limited discounts or free service periods. Under current accounting rules, we recognize revenue net of discounts during the promotional periods and do not recognize any revenue during free service periods. Under ASU 2014-09, revenue recognition will be accelerated for these contracts as the impact of discounts or free service periods that are considered performance obligations will be recognized uniformly over the total contractual period. In addition, the standard will require that incremental costs to obtain a customer, which represent a significant portion of our non-advertising subscriber acquisition costs, be deferred and recognized over the expected customer life, whereas our current policy is to expense these costs as incurred. As the new standard will impact revenue and cost recognition for a significant number of our contracts, as well as our business processes and information technology systems, our evaluation of the effect of the new standard is ongoing. We are currently in the process of identifying and implementing changes to our systems, processes, and internal controls to meet the requirements of the standard. The ultimate impact of adopting ASU 2014-09 for both revenue recognition and costs to obtain and fulfill contracts will depend on the promotions and offers in place during the period leading up to and after the adoption of ASU 2014-09.

Recognition and Measurement of Financial Assets and Financial Liabilities . On January 5, 2016, the FASB issued ASU 2016-01 *Recognition and Measurement of Financial Assets and Financial Liabilities* ("ASU 2016-01") , which amends certain aspects of recognition, measurement, presentation and disclosure of financial instruments. This amendment requires all equity investments to be measured at fair value with changes in the fair value recognized through net income (other than those accounted for under equity method of accounting or those that result in consolidation of the investee). This standard will be effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. We are evaluating the impact the adoption of ASU 2016-01 will have on our consolidated financial statements.

Leases. On February 25, 2016, the FASB issued ASU 2016-02 *Leases* ("ASU 2016-02"), which relates to the accounting of leasing transactions. This standard requires a lessee to record on the balance sheet the assets and liabilities for the rights and obligations created by leases with lease terms of more than 12 months. In addition, this standard requires both lessees and lessors to disclose certain key information about lease transactions. This standard will be effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. We are evaluating the impact the adoption of ASU 2016-02 will have on our consolidated financial statements.

Financial Instruments – Credit Losses. On June 16, 2016, the FASB issued ASU 2016-13 *Financial Instruments – Credit Losses, Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13"), which changes the way entities measure credit losses for most financial assets and certain other instruments that are not measured at fair value through net earnings. This standard will be effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Early adoption is permitted. We are evaluating the impact the adoption of ASU 2016-13 will have on our consolidated financial statements and related disclosures.

Statement of Cash Flows - Update. On August 26, 2016, the FASB issued 2016-15 *Statement of Cash Flows: Classification of Certain Cash Receipts and Cash Payments* ("ASU 2016-15"). This update consists of eight provisions that provide guidance on the classification of certain cash receipts and cash payments. If practicable, this update should be applied using a retrospective transition method to each period presented. For the provisions that are impracticable to apply retrospectively, those provisions may be applied prospectively as of the earliest date practicable. This update will become effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Early adoption is permitted. We are evaluating the impact the adoption of ASU 2016-15 will have on our consolidated financial statements.

Statement of Cash Flows: Restricted Cash. On November 17, 2016, the FASB issued ASU 2016-18 *Restricted Cash* ("ASU 2016-18") , which addresses the diversity where changes in restricted cash are classified on the cash flow statement. ASU 2016-18 requires that changes in restricted cash and cash equivalents be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts on the statement of cash flows. This standard will be effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Early adoption is permitted. We expect that the adoption of ASU 2016-18 will have an immaterial impact on our consolidated financial statements and related disclosures.

Compensation – Stock Compensation. On March 30, 2016, the FASB issued ASU 2016-09 *Compensation – Stock Compensation: Improvements to Employee Share-Based Payment Accounting* ("ASU 2016-09") , which relates to the accounting for employee share-based payments. This standard addresses several aspects of the accounting for share-based payment award transactions, including: (a) income tax consequences; (b) classification of awards as either equity or liabilities; and (c) classification on the statement of cash flows. This standard will be effective for fiscal years beginning after December 15, 2016, including interim periods within those fiscal years. During the third quarter 2016, we adopted ASU 2016-09, which had an immaterial impact on our consolidated financial statements.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RIS K

Market Risks Associated with Financial Instruments

Our investments and debt are exposed to market risks, discussed below.

Cash, Cash Equivalents and Current Marketable Investment Securities

As of December 31, 2016, our cash, cash equivalents and current marketable investment securities had a fair value of $5.359 billion. Of that amount, a total of $5.352 billion was invested in: (a) cash; (b) money market funds; (c) debt instruments of the United States Government and its agencies; (d) commercial paper and corporate notes with an overall average maturity of less than one year and rated in one of the four highest rating categories by at least two nationally recognized statistical rating organizations; and/or (e) instruments with similar risk, duration and credit quality characteristics to the commercial paper and corporate obligations described above. The primary purpose of these investing activities has been to preserve principal until the cash is required to, among other things, continue investing in our business, pursue acquisitions and other strategic transactions, fund ongoing operations, repay debt obligations and expand our business. Consequently, the size of this portfolio can fluctuate significantly as cash is received and used in our business for these or other purposes. The value of this portfolio is negatively impacted by credit losses; however, this risk is mitigated through diversification that limits our exposure to any one issuer.

Interest Rate Risk

A change in interest rates would affect the fair value of our cash, cash equivalents and current marketable investment securities portfolio; however, we normally hold these investments to maturity. Based on our December 31, 2016 current non-strategic investment portfolio of $5.352 billion, a hypothetical 10% change in average interest rates would not have a material impact on the fair value due to the limited duration of our investments.

Our cash, cash equivalents and current marketable investment securities had an average annual rate of return for the year ended December 31, 2016 of 0.8%. A change in interest rates would affect our future annual interest income from this portfolio, since funds would be re-invested at different rates as the instruments mature. A hypothetical 10% decrease in average interest rates during 2016 would result in a decrease of approximately $2 million in annual interest income.

Strategic Marketable Investment Securities

As of December 31, 2016, we held debt and equity investments in private and public companies with a fair value of $7 million for strategic and financial purposes, which are highly speculative and have experienced and continue to experience volatility. As of December 31, 2016, our strategic investment portfolio consisted of securities of a small number of issuers, and as a result the value of that portfolio depends, among other things, on the performance of those issuers. The fair value of certain of the debt and equity securities in our investment portfolio can be adversely impacted by, among other things, the issuers' respective performance and ability to obtain any necessary additional financing on acceptable terms, or at all.

The fair value of our strategic and financial debt and equity investments can be significantly impacted by the risk of adverse changes in securities markets generally, as well as risks related to the performance of the companies whose securities we have invested in, risks associated with specific industries, and other factors. These investments are subject to significant fluctuations in fair value due to the volatility of the securities markets and of the underlying businesses. In general, the debt instruments held in our strategic marketable investment securities portfolio are not significantly impacted by interest rate fluctuations as their value is more closely related to factors specific to the underlying business. A hypothetical 10% adverse change in the price of our public strategic debt and equity investments would result in a decrease of approximately $1 million in the fair value of these investments.

Restricted Cash, Cash Equivalents and Marketable Investment Securities

As of December 31, 2016, we had $82 million of restricted cash and marketable investment securities invested in: (a) cash; (b) money market funds; (c) debt instruments of the United States Government and its agencies; and/or (d) instruments with similar risk, duration and credit quality characteristics to commercial paper. Based on our December 31, 2016 investment portfolio, a hypothetical 10% increase in average interest rates would not have a material impact in the fair value of our restricted cash and marketable investment securities.

Long-Term Debt

As of December 31, 2016, we had long-term debt of $17.148 billion, excluding capital lease obligations and unamortized deferred financing costs and debt discounts, on our Consolidated Balance Sheets. We estimated the fair value of this debt to be approximately $18.452 billion using quoted market prices. The fair value of our debt is affected by fluctuations in interest rates. A hypothetical 10% decrease in assumed interest rates would increase the fair value of our debt by approximately $373 million. To the extent interest rates increase, our future costs of financing would increase at the time of any future financings. As of December 31, 2016, all of our long-term debt consisted of fixed rate indebtedness.

Derivative Financial Instruments

From time to time, we invest in speculative financial instruments, including derivatives. As of December 31, 2016, we did not hold any derivative financial instruments.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DAT A

Our consolidated financial statements are included in this Annual Report on Form 10-K beginning on page F-1.

Our selected quarterly financial data for each of the quarterly periods ended March 31, June 30, September 30 and December 31 for 2016 and 2015 is included in Note 17 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K.

Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSUR E

Not applicable.

Item 9A. CONTROLS AND PROCEDURE S

Disclosure controls and procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we evaluated the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934) as of the end of the period covered by this report. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of the end of the period covered by this report.

Changes in internal control over financial reporting

There has been no change in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934) during our most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles.

Our internal control over financial reporting includes those policies and procedures that:

(i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect our transactions and dispositions of our assets;

(ii) provide reasonable assurance that our transactions are recorded as necessary to permit preparation of our financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and our directors; and

(iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on our financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with policies or procedures may deteriorate.

Our management conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2016.

The effectiveness of our internal control over financial reporting as of December 31, 2016 has been audited by KPMG LLP, an independent registered public accounting firm, as stated in their report which appears in Item 15(a) of this Annual Report on Form 10-K.

Item 9B. OTHER INFORMATIO N

None

PART II I

Item 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANC E

The information required by this Item will be set forth in our Proxy Statement for the 2017 Annual Meeting of Shareholders, which information is hereby incorporated herein by reference.

The information required by this Item with respect to the identity and business experience of our executive officers is set forth on page 22 of this Annual Report on Form 10-K under the caption "Executive Officers of the Registrant."

Item 11. EXECUTIVE COMPENSATIO N

The information required by this Item will be set forth in our Proxy Statement for the 2017 Annual Meeting of Shareholders, which information is hereby incorporated herein by reference.

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTER S

The information required by this Item will be set forth in our Proxy Statement for the 2017 Annual Meeting of Shareholders, which information is hereby incorporated herein by reference.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENC E

The information required by this Item will be set forth in our Proxy Statement for the 2017 Annual Meeting of Shareholders, which information is hereby incorporated herein by reference.

Item 14. PRINCIPAL ACCOUNTING FEES AND SERVICE S

The information required by this Item will be set forth in our Proxy Statement for the 2017 Annual Meeting of Shareholders, which information is hereby incorporated herein by reference.

PART I V

Item 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULE S

(a) The following documents are filed as part of this report:

(1) *Financial Statements*

(2) *Financial Statement Schedules*

None. All schedules have been included in the consolidated financial statements or notes thereto.

(3) *Exhibits*

3.1(a)* Amended and Restated Articles of Incorporation of DISH Network Corporation (incorporated by reference to Exhibit 3.1(a) on the Quarterly Report on Form 10-Q of DISH Network Corporation for the quarter ended June 30, 2003, Commission File No. 0-26176), as amended by the Certificate of Amendment to the Articles of Incorporation of DISH Network Corporation (incorporated by reference to Annex 1 on DISH Network Corporation's Definitive Information Statement on Schedule 14C filed on December 31, 2007, Commission File No. 0-26176) and as further amended by the Certificate of Amendment to the Articles of Incorporation of DISH Network Corporation, effective November 3, 2015 (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of DISH Network Corporation filed November 3, 2015, Commission File No. 0-26176).

3.1(b)* Amended and Restated Bylaws of DISH Network Corporation (incorporated by reference to Exhibit 3.1 to the Quarterly Report on Form 10-Q of DISH Network Corporation for the quarter ended September 30, 2014, Commission File No. 0-26176).