homes passed by cable systems.[143] At year-end 2004, there were 19.5 million VOD-enabled digital capable households and this is projected to grow to 23.9 million by the end of 2005.[144]

57. Comcast's VOD service, which is available to 87 percent of Comcast subscribers, allows digital cable subscribers to choose from a menu of more than 3,500 programs, at any given time, with most of these programs available free.[145] Comcast says its VOD service is growing rapidly, and it expected subscribers to order 1.5 billion VOD programs in 2005.[146] Comcast's VOD content includes the recently launched PBS Kids Sprout on Demand, independent films, multicultural programs, movies, and newscasts from local broadcast stations.[147] Comcast's "Select on Demand" service provides 15 VOD channels, each a collection of original programming organized by particular themes.[148] By the end of March 2005, Cox's VOD service had been deployed in eight markets and was available to about half of Cox's digital subscribers.[149] Cox's VOD service provides access to 600 hours of content, including 100 hours of free programming.[150] Time Warner's VOD service is available in all of its 31 cable operating divisions.[151] With Time Warner's Premiums on Demand VOD service, digital cable subscribers who also subscribe to a premium channel (*i.e.*, HBO, Showtime, Cinemax, or the Movie Channel) receive unlimited access to movies offered on the premium movie channels for a monthly fee.[152] With Time Warner's Movies on Demand VOD service, digital cable subscribers may access hundreds of movies for a rental fee.[153] Cablevision's VOD service provides over 200 hours of free programming and subscriptions to HBO on Demand, Cinemax on Demand, Anime Network on Demand, Showtime on Demand, Disney Channel on Demand, Playboy TV on Demand, and IFC Uncensored on Demand, which offers independent films and original series.[154] Charter's VOD service offers thousands of movies including those available through premium channels like HBO On Demand and Showtime on Demand.[155]

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[143] *Advanced Services Spread Across Cable Systems*, Cable TV Investor, Apr. 26, 2005, at 5.

[144] Cable Databook at 12.

[145] Comcast Comments at 48. For an overview of Comcast's VOD service, *see* http://www.comcast.com/Benefits/CableDetails/ Slot5PageOne.asp (visited Sept. 27, 2005). *See also* Comcast Corp., at http://www.cmcsk.com/phoenix.zhtml?c=147565&p=irol-digital (visited Sept. 29, 2005).

[146] Jonathan Make, *Comcast Customers Will Use Its VOD Service 50% More Times by Year-End*, COMMUNICATIONS DAILY, Sept. 20, 2005.

[147] Comcast Comments at 48-49.

[148] For example, Select On Demand's "Wheels and Wings" channel focuses on content for car enthusiasts, while "Anime Selects" offers an array of animation programs. Comcast Comments at 51.

[149] The eight markets are: San Diego, California; Oklahoma City, Oklahoma; Hampton Roads, Virginia; Las Vegas, Nevada; New Orleans, Louisiana; Omaha, Nebraska; New England (markets in Connecticut and Rhode Island); and Orange County, California. Cable TV Investor, July 29, 2005, at 3.

[150] *Id.* For an overview of Cox VOD service, *see* http://www.cox.com/DigitalCable/ondemand (visited Sept. 27, 2005).

[151] Each of Time Warner's cable operating divisions is a cluster of cable franchises.

[152] For an overview of Time Warner's Premiums on Demand VOD service, *see* http://www. timewarnercable.com/corporate/products/digitalcable/premiumsondemand.html (visited Sept. 27, 2005).

[153] For an overview of Time Warner's Movies on Demand VOD service, *see* http://www.timewarnercable.com/corporate/ products/digitalcable/moviesondemand.html (visited Sept. 27, 2005).

[154] For an overview of Cablevision's VOD service, *see* http://www.io.tv/index.jhtml?pageType= on_demand (visited Sept. 27, 2005).

[155] For an overview of Charter's VOD service, *see* http://www.charter.com/services/ondemand/ ondemand.aspx (visited Sept. 27, 2005).

58. ***Digital Video Recorders (DVRs).*** DVR service allows subscribers to record programs onto a hard drive located in a set-top box, which can then be played back at any time. DVR features include fast-forward, rewind, and the ability to pause live television. While early units were marketed independently, cable and satellite operators are integrating DVR functionality into their digital set-top boxes.[156] At the end of 2004, DVR service was available to 79 percent of the homes passed by cable systems and there were 1.8 million subscribers equipped with integrated DVRs.[157] Many cable and satellite operators use dual-tuner DVRs which enable subscribers to record one or more programs while watching another program.

59. Comcast's dual-tuner DVR service is available in all Comcast's markets and can be purchased by digital cable subscribers for an additional $9.95 per month.[158] More than 575,000 households subscribe to Comcast's DVR service.[159] In March 2005, Comcast and TiVo announced a partnership to offer TiVo-based DVR service to Comcast subscribers.[160] DIRECTV, however, recently began to transition from TiVo's DVR hardware toward an in-house DVR product.[161] Cox's DVR service is available in Cox's upgraded service areas and costs $9.99 per month.[162] In Northern Virginia, Cox is testing and planning to offer multi-room DVR service in 2006 that delivers DVR service to several televisions in a household with a single DVR set-top box.[163] At the end of June 2005, the number of subscribers to Time Warner's DVR service had grown to 1.1 million from 862,000 at the end of 2004, representing 22 percent of the company's digital cable subscribers.[164] Time Warner's DVR service is available to digital cable subscribers for $9.95 per month. Cablevision's DVR service is also available to digital cable subscribers for $9.95 per month. Charter dual-tuner DVR service is available in limited Charter service areas for $9.99 per month.[165]

60. ***High-Definition Television (HDTV).*** HDTV features dramatically improved, highly detailed picture quality, improved audio quality, and a wide-screen display.[166] For subscribers to receive the high-definition service tier, most cable companies require subscription to the digital service and use of a high-definition set-top box.[167] To obtain the full visual effect of HDTV, a cable subscriber also needs

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[156] At the end of June 2005, there were approximately 8.3 million subscribers to DVR services in the U.S. *See* Nick Wingfield, *TiVo Slashes Recorder Price in Half, $50*, WALL STREET JOURNAL, Sept. 7, 2005, at D1. TiVo, the leading seller of DVRs, has almost 3.6 million subscribers, although its lead is vanishing as cable and satellite operators are offering their own DVRs to subscribers. *Id. See also* Joe Mandese, *DVR Threat Gets Downgraded*, BROADCASTING & CABLE, Sept. 12, 2005, at 20.

[157] *Advanced Services Spread Across Cable Systems*, Cable TV Investor, Apr. 26, 2005, at 5.

[158] Comcast Corp., at http://www.cmcsk.com/phoenix.zhtml?c=147565&p=irol-digital (visited Sept. 29, 2005).

[159] Comcast Comments at 52.

[160] Comcast Corp., *Comcast and TiVo Announce Strategic Partnership* (press release), Mar. 15, 2005.

[161] Jane L. Levere, *In a Challenge to TiVo, DirecTV Promotes Its Own Box*, NEW YORK TIMES, Oct. 7, 2005, at http://www.nytimes.com/2005/10/07/business/07adco.html (visited Oct. 27, 2005).

[162] *See* Cox Communications, at http://www.cox.com/Fairfax/Digitalcable/dvrfaqs.asp (visited Oct. 4, 2005).

[163] *Cox Turns Attention to Advanced Video Services*, Cable TV Investor, July 29, 2005, at 3.

[164] Time Warner Inc., *Time Warner Inc. Reports Second Quarter 2005 Results* (press release), Aug. 3, 2005; Time Warner Inc., *Time Warner Reports Results for 2004 Full Year and Fourth Quarter* (press release), Feb. 4, 2005.

[165] *See* Charter Communications, at http://www.charter.com/services/dvr/dvr.aspx (visited Oct. 4, 2005).

[166] HDTV service typically includes a mix of broadcast, basic cable, and premium nonbroadcast networks.

[167] *See* Comcast, at http://comcast.p.delivery.net/m/p/com/mic/HD_Index.asp (visited Oct. 20, 2005); Cox, at http://.cox.com/Fairfax/digitalcable/hdtvrates.asp (visited Oct. 7, 2005); Time Warner, at http://timewarnercable.com/corporate/products/digitalcable/hdtv.html (visited Sept. 30, 2005); Cablevision, at (continued….)

an HDTV set. HDTV service from networks that have standard-definition or analog counterparts, including ABC, NBC, CBS, FOX, PBS, WB, UPN, and TNT, is often offered at no additional charge to HDTV subscribers. HDTV service from premium channels, including HBO and Showtime, is usually offered at no additional charge over the cost of subscriptions to those networks. Other programming, including programming offered only in HDTV, may be offered at an additional monthly fee. At the end of 2004, HDTV service was available to 87 percent of homes passed by cable service (approximately 92 million households).[168] Approximately 2.3 million cable subscribers were equipped with HDTV set-top boxes.[169] A total of 184 (out of 210) DMAs, including all of the top 100 DMAs, were served by at least one cable system offering HDTV service.[170] Twenty-three nonbroadcast networks offer HDTV service.[171]

61. Comcast's HDTV service is available in 72 markets, representing 94 percent of the homes passed by Comcast's cable systems.[172] Subscribers with a digital set-top box can upgrade to an HDTV set-top box for an additional $5 monthly fee.[173] Comcast offers its HDTV subscribers high-definition local broadcast signals, including the signals of affiliates of ABC, NBC, CBS, and PBS, and cable networks ESPN HD, INHD and INHD2.[174] At no additional cost, Comcast's premium network subscribers can watch HBO HD, Showtime HD, Starz HD and Cinemax HD.[175] Cox's digital cable subscribers can upgrade to an HDTV set-top box for an additional $6.50 per month.[176] At no additional charge, Cox HDTV service offers high-definition local broadcast signals, including the signals of affiliates of ABC, NBC, CBS, FOX, and PBS, as well as Discovery HD Theater, ESPN HD, INHD1, INHD2, and NBC Universal HDTV.[177] HBO HDTV and Showtime HDTV are included at no additional charge to those with HBO and Showtime subscriptions.[178] Time Warner's digital cable subscribers can upgrade to an HDTV set-top box for no additional charge.[179] Time Warner offers HDTV subscribers

(Continued from previous page)
http://www.io.tv/index.jhtml?pageType=hdtv (visited Oct. 20, 2005); Charter, at http://www.charter.com/products/hdtv/hdtv.aspx (visited Oct. 7, 2005).

[168] *Advanced Services Spread Across Cable Systems*, Cable TV Investor, Apr. 26, 2005, at 5. *See also* NCTA Comments at 26.

[169] *Advanced Services Spread Across Cable Systems*, Cable TV Investor, Apr. 26, 2005, at 5.

[170] NCTA Comments at 26.

[171] *Id.* at 27. These include Cinemax HDTV, Comcast SportsNet HDTV, Discovery HD Theater, ESPN HD, ESPN2 HD, FSN HD, HBO HD, HDNet, HDNet Movies, INHD, INHD2, MSG Networks in HD, NBA TV, NFL Network HD, Outdoor Channel 2 HD, Showtime HD, Spice HD, STARZ! HDTV, The Movie Channel HD, TNT in HD, Universal HD, and YES-HD.

[172] Comcast Comments at 47-48.

[173] *Id.*

[174] *See* Comcast, at http://www.comcast.com/Benefits/CableDetails/Slot4PageOne.asp (visited Oct 6, 2005).

[175] *Id.* Comcast also offers regional sports networks in high-definition, including Comcast SportsNet Philadelphia, Mid-Atlantic, Chicago, and West. In addition, Comcast offers high-definition VOD service. A monthly equipment charge applies for an HDTV-enabled digital cable set-top box. *See* http://www.cmcsk.com/phoenix.zhtml?c=147565&p=irol-digital (visited Sept. 30, 2005).

[176] Cox subscribers pay $3.50 per month for a digital set-top box and $10 per month for an HDTV set-top box. *See* Cox Communications, at http://www.cox.com/fairfax/rates.asp (visited Oct. 7, 2005).

[177] *See* Cox Communications, at http://www.cox.com/fairfax/digitalcable/hdtvrates.asp (visited Oct. 7, 2005).

[178] *Id.*

[179] *See* Time Warner, at http://www.timewarnercable.com/albany/products/hdtv/default.html (visited Oct. 6, 2005).

high-definition local broadcast signals, including the signals of affiliates of ABC, CBS, NBC, and PBS.[180] Time Warner also offers HDTV service from HBO and Showtime at no extra charge to subscribers of these premium networks.[181] Cablevision's digital cable subscribers may upgrade to an HDTV set-top box at no additional cost over the standard set-top box rental fee.[182] Cablevision's subscribers with HDTV set-top boxes have access to 18 HDTV networks at no additional charge over the standard-definition version of the networks.[183] The networks include local affiliates of ABC, CBS, NBC, PBS, WB, and FOX.[184] Other networks include MSG Network, FSN New York, YES Network, ESPN, Universal HD, HBO, Showtime, Cinemax, Starz, The Movie Channel, and INHD.[185] Charter offers HDTV service in more than 33 markets.[186] Charter's HDTV set-top box costs $3 more a month than its standard digital set-top box.[187] At no additional charge, Charter offers the HDTV service from local affiliates of ABC, CBS, and NBC.[188] Charter also offers HDTV service from Discovery HD, ESPN HD, HDNet, HDNet Movies, HBO HD to HBO subscribers, and Showtime HD to Showtime subscribers.[189]

62. ***High-Speed Internet Access Service.*** FCC Form 325 data from 2004 indicates that more than 93 percent of homes passed have access to high-speed Internet service. Approximately 80 percent of systems offer high-speed Internet service.[190] By the end of June 2005, the number of subscribers to high-speed Internet service offered by cable operators had grown to 23 million households.[191] Residential high-speed Internet access service is a principal driver of cable industry revenue growth, generating $8.9 billion in 2004.[192] It is projected to generate $11.2 billion in 2005.[193] Cable, DSL, wireline, and wireless technologies provided high-speed Internet access service to 35.3 million residential and small business subscribers at the end of 2004.[194] By January 2005, the U.S. had 11.4 broadband connections for every 100 inhabitants.[195] Coaxial cable technology provided 60.3 percent of that total, DSL technology

[180] *See* Time Warner, at http://www.timewarnercable.com/corporate/products/digitalcable/hdtv.html (visited Sept. 30, 2005).

[181] *Id.*

[182] Cablevision Systems Corp., *iO Adds WB11-HD to Industry-Leading High-Definition Line-Up* (press release), July 18, 2005.

[183] *Id.*

[184] *Id.*

[185] *Id.*

[186] *See* Charter Communications, Inc., at http://www.charter.com/products/hdtv/hdtv.aspx (visited Oct. 7, 2005).

[187] *Id.*

[188] *Id.*

[189] *Id.*

[190] 2004 FCC Form 325 data.

[191] NCTA Comments at 31.

[192] *10-Year Projections: Cable's Growth Story Persists*, Cable TV Investor, June 30, 2005, at 2-3. *See also* Table 4 *supra.*

[193] *Id.*

[194] FCC, *High-Speed Services for Internet Access: Status as of December 31, 2004,* July 2005, at Chart 6. This report and previous releases of the *High-Speed Services for Internet Access* report are available at http://www.fcc.gov/wcb/iatd/comp.html (visited Nov. 15, 2005).

[195] *See* Global Broadband Penetration per 100 Inhabitants, International Telecommunications Union, at http://www.itu.int/osg/spu/newslog/ITUs+New+Broadband+Statistics+For+1+January+2005.aspx (visited Oct. 28, 2005).

provided 37.2 percent, and other wireline and wireless technologies provided the remaining 2.5 percent.[196] Cable's share has declined from 63.2 percent at the end of 2003 while DSL's share has increased from 34.3 percent at the end of 2003.[197] High-speed data services using cable modems now enable the delivery of emerging video services, such as Internet video and video-on-demand.[198]

63. Most cable operators provide high-speed Internet service with one proprietary Internet Service Provider (ISP) specifically created and owned by the cable operator.[199] For example, Cablevision offers high-speed Internet service under the brand Optimum Online; Comcast offers the service under the "Comcast High-Speed Internet" brand name; Charter offers the service under the "Charter High-Speed" brand name; and Cox offers the service under the "Cox High Speed Internet" brand name. Some cable operators, however, offer their high-speed Internet service subscribers the ability to use unaffiliated ISPs. For example, Time Warner Cable offers its subscribers multiple ISPs, including its own Road Runner Internet access service with AOL for $49.95, Earthlink for $44.95, and Stic.Net for $44.95.[200]

64. As of June 30, 2005, Comcast's high-speed Internet access service was available to 40.8 million homes, or 98.9 percent of homes passed by Comcast's systems.[201] On June 30, 2005, Comcast had 7.7 million subscribers to its high-speed Internet access service, representing a penetration rate[202] of 18.9 percent, up from the 7 million high-speed Internet subscribers Comcast reported at the end of 2004.[203] At the end of June 2005, Cox's high-speed Internet service had grown to 2.8 million subscribers, representing a 26.9 percent penetration rate, compared to the 2.6 million high-speed Internet access

[196] FCC, *High-Speed Services for Internet Access: Status as of December 31, 2004,* July 2005, at Chart 6. This report and previous releases of the *High-Speed Services for Internet Access* report are available at http://www.fcc.gov/wcb/iatd/comp.html (visited Nov. 15, 2005).

[197] FCC, *High-Speed Services for Internet Access: Status as of December 31, 2003,* June 2004, at Chart 6. This report and other releases of the *High-Speed Services for Internet Access* report are available at http://www.fcc.gov/wcb/iatd/comp.html (visited Nov. 15, 2005).

[198] *See* paras. 135-39 *infra.*

[199] *See 2001 Report*, 17 FCC Rcd at 1266-67 ¶¶ 46-47 and n.136; *see also Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, Internet Over Cable Declaratory Ruling, Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities, Declaratory Ruling and Notice of Proposed Rulemaking*, 17 FCC Rcd 4798 (2002) (*High-Speed Access Declaratory Ruling and NPRM*). In the *High-Speed Access Declaratory Ruling and NPRM*, the Commission concluded that "cable modem service, as it is currently offered, is properly classified as an interstate information service, not as a cable service, and that there is no separate offering of telecommunications service." *High-Speed Access Declaratory Ruling and NPRM*, 17 FCC Rcd at 4802 ¶ 7. *See AT&T v. City of Portland*, 216 F.3d 871 (9th Cir. 2000). *See also Brand X Internet Services v. FCC*, 345 F.3d 1120 (9th Cir. 2003), *reversed and remanded, National Cable & Telecommunications Ass'n v. Brand X Internet Services*, 125 S. Ct. 2688 (2005).

[200] *See* Time Warner Cable, at http://www.timewarnercable.com/houston/products/cable /packagesandpricing.html?menu=CustomerService (visited Oct. 11, 2005). *See also* http://www.timewarnercable.com/houston/products/internet/earthlink.html (visited Oct. 11, 2005).

[201] Comcast Corp., *Comcast Reports Second Quarter 2005 Results* (press release), Aug. 2, 2005.

[202] Although there is no standard method for reporting penetration rates for advanced services, high-speed Internet service penetration rates usually are calculated by dividing the number of high-speed Internet subscribers by the number homes passed where high-speed Internet service is available. This is the method often used when high-speed Internet services are not yet available to every home passed by a cable system. Cablevision, however, has completed its system upgrade and makes high-speed Internet service available to all homes passed by its cable systems. As such, Cablevision calculates its penetration rate for high-speed Internet service by dividing the number of high-speed Internet service subscribers by the number of homes passed by its cable system.

[203] Comcast Corp., *Comcast Reports Second Quarter 2005 Results* (press release), Aug. 2, 2005; Comcast Corp., *Comcast Reports Fourth Quarter and Year End 2004 Results* (press release), Feb. 3, 2005.

subscribers Cox reported for year end 2004.[204] Time Warner reported that it had 4.3 million high-speed Internet subscribers the end of June 2005, representing a penetration rate of 22 percent, compared to 3.9 million high-speed Internet subscribers at year-end 2004.[205] As of June 30, 2005, Cablevision had 1.5 million high-speed Internet subscribers and a penetration rate of 34 percent, up from the 1.4 million high-speed Internet subscribers reported for December 31, 2004.[206] Charter's high-speed Internet service had grown to more than 2 million subscribers at the end of June 2005, a penetration rate of 18 percent, compared to the 1.9 million high-speed Internet subscribers reported at the end of 2004.[207]

65. Over the past year, many cable operators have increased the speed of their high-speed Internet services as well as experimented with lower-priced tiers of service, some as low as $25 per month.[208] Most cable operators are now offering 4 to 6 Mbps downstream and additional high-speed Internet tiers with even faster speeds.[209] NCTA says that the cable industry has developed technical specifications that will enable operators to continue increasing Internet service speeds to 160 Mbps downstream and 60 Mbps upstream.[210] Cable operators also offer a variety of features with their high-speed Internet services, including increased storage capacity; multiple e-mail accounts; integrated security suites with anti-virus, anti-spyware, and firewall protection; pop-up blocking and spam filtering; video e-mail; specialized content; and home networking for multiple devices.[211] Comcast offers 6 Mbps downstream and 384 Kbps upstream for $42.95 per month and 8 Mbps downstream and 768 Kbps upstream for premium service subscribers.[212] For no additional charge, Comcast also provides broadband security services.[213] Cox offers security software, pop-up blocker, antivirus protection and speeds of 5 Mbps downstream and 2 Mbps upstream for $39.95 per month; it offers speeds of 15 Mbps downstream and 2 Mbps upstream for $54.95 per month.[214] Time Warner's high-speed Internet service provides 5 Mbps downstream for $39.95 per month.[215] Cablevision's high-speed Internet service provides up to 10

[204] Cox Communications Inc., *Cox Communications Announces Second Quarter and Year-to-Date Financial Results for 2005* (press release), Aug. 9, 2005; Cox Communications Inc., *Cox Communications Announces Fourth Quarter and Full-Year Financial Results for 2004* (press release), Mar. 16, 2005.

[205] Time Warner Inc., *Time Warner Inc. Reports Second Quarter 2005 Results* (press release), Aug. 3, 2005; Time Warner Inc., *Time Warner Reports Results for 2004 Full Year and Fourth Quarter* (press release), Feb. 4, 2005.

[206] Cablevision Systems Corp., *Cablevision Systems Corporation Reports Second Quarter 2005 Results* (press release), Aug. 9, 2005; Cablevision Systems Corp., *Cablevision Systems Corporation Reports Fourth Quarter and Full Year 2004 Results* (press release), Feb. 23, 2005.

[207] Charter Communications Inc., *Charter Reports Second Quarter 2005 Financial and Operating Results* (press release), Aug. 1, 2005; Charter Communications Inc., *Charter Reports Fourth Quarter and Annual 2004 Financial and Operating Results* (press release), Mar. 1, 2005.

[208] Marguerite Reardon, *Comcast Revs Up Downloads*, CNET, July 12, 2005, at http://news.com.com/Comcast+revs+up+downloads/2100-1034_3-5785081.html?tag=st.rn (visited Oct. 25, 2005).

[209] NCTA Comments at 35.

[210] *Id.*

[211] *Id.* at 35-36.

[212] Comcast Comments at 53. *See also* Comcast Corp., at http://www.comcast.com/Benefits CHSIBenefits.asp?LinkID=51 (visited Oct. 20, 2005).

[213] *Id.*

[214] *See* Cox, at http://www.cox.com/Fairfax/HighSpeedInternet (visited Oct. 7, 2005).

[215] The price applies to customers that subscribe to both high-speed internet service and digital cable service. Time Warner Cable, at http://www.timewarnercable.com/houston/products/internet/default.html (visited Oct. 7, 2005).

Mbps downstream for $44.95 per month.[216] Cablevision is marketing 50 Mbps, expandable to 100 Mbps, for commercial subscribers. Cablevision's high-speed Internet service also provides software that scans for computer viruses.[217] Charter's high-speed Internet subscribers receive 3 Mbps downstream and 256 Kbps upstream, antivirus protection and firewall software for approximately $40 per month.[218]

66. ***Telephony Offered by Cable Operators***. Although some cable companies have been providing traditional circuit-switched telephony for years, the cable industry is now using digital technology to provide voice-over-Internet protocol (VoIP) services.[219] At the end of 2004, cable telephony service, both VoIP and circuit-switched, was available to 38 percent of the homes passed by cable.[220] At the end of 2004, there were 3.6 million subscribers to cable telephone service, with 3 million subscribers being served by circuit-switched service and 600,000 subscribers being served by VoIP service.[221] At the end of June 2005, there were 1.2 million subscribers to cable's VoIP service.[222] Most cable operators offer discounts for VoIP when it is bundled with other cable services.[223] For example, Cox charges $49.95 for stand-alone VoIP service, $44.95 when subscribers take a two-product bundle from Cox, and $39.95 when subscribers take a three-product bundle from Cox.[224]

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[216] Cablevision Systems Corp., at http://www.cablevision.com/index.jhtml?pageType=ool_product (visited Oct. 7, 2005).

[217] Cablevision Systems Corp., *Latest Value Enhancement from Optimum Online: Essential PC Maintenance Protection for PC Care at No Additional Cost* (press release), Sept. 7, 2005.

[218] Charter Communications Inc., at http://www.charter.com/products/highspeed/highspeed.aspx (visited Oct. 7, 2005).

[219] A circuit-switched cable telephony voice call and an IP telephony voice call provided by a cable operator both begin with special equipment that connects a household's twisted pair infrastructure with the cable infrastructure. Cable circuit-switched telephony, however, eventually turns the call over to the public switched telephone network (PSTN), while IP telephony turns the call over to an Internet IP gateway for IP processing onto the PSTN or a managed IP Network. IP telephony processes voice telephone calls much like data on the Internet; that is, digitized pieces of data are divided into discrete packets and are transported over an IP network following any path that does not resist transfer.

[220] *Advanced Services Spread Across Cable Systems*, Cable TV Investor, Apr. 26, 2005, at 5. One analysis shows that cable operators offered VoIP service to 16.9 million homes, or 15 percent of all households at the end of 2004. The analysis also projects that VoIP service will be available to 46.2 million homes, or 41 percent of all households, by the end of 2005. Craig Moffett, *et. al., Quarterly VoIP Monitor: How High is Up for Cable VoIP?*, Bernstein Research Call, Sanford C. Bernstein & Co., Mar. 24, 2005, at 1. Cable companies also are adding mobile phone service to their telephony offerings. Anne Veigle, Howard Buskirk, *Cable Likely to Pursue Deals Similar to Time Warners' Sprint Offering*, COMMUNICATIONS DAILY, Dec. 30, 2004. Time Warner began marketing Sprint mobile phones to its subscribers in Kansas City, Missouri. Jim Hu, *Time Warner Cable Begins Cell Phone Trials*, CNET, Mar. 31, 2005, at http://news.com.com/Time+Warner+Cable+begins+cell+phone+trials/2100-1039_3-5648954.html (visited Oct. 14, 2005). Cablevision also reached agreement to sell Sprint's wireless telephone service. Harry Berkowitz, *Cablevision, Sprint Team Up*, CED, May 3, 2005, at http://www.cedmagazine.com/cedailydirect/2005/0505/cedaily050503.htm (visited Oct. 17, 2005). Comcast, Time Warner, Cox, and Advanced/Newhouse have reached an agreement with Sprint Nextel to deliver cellular phone service to their cable subscribers. Yuki Noguchi, *5 Firms to Link Cable and Cell Phones*, WASHINGTON POST, Nov. 3, 2005, at http://www.washingtonpost.com/wp-dyn/content/article/2005/11/02/AR2005110200609.html (visited Jan. 17, 2006).

[221] *The Evolution of Cable: 1955-2004*, Cable TV Investor, July 29, 2005, at 4.

[222] NCTA Comments at 37.

[223] *Id.* at 38.

[224] Cox's VoIP service includes unlimited local and nationwide calling plus these features: Call Forwarding, Call Waiting, Speed Dial 8, Caller ID, Three-Way Calling, Call Return, Busy Line Redial, Selective Call Acceptance, Selective Call Rejection, Call Forwarding – Busy, Call Forwarding – No Answer, Call Forwarding of Call Waiting, (continued….)

67. Comcast is a facilities-based provider of cable telephone services that serves approximately 1.2 million subscribers in 18 markets with circuit-switched phone service.[225] In early 2005, Comcast began offering VoIP service to subscribers in Boston, Massachusetts; Chicago, Illinois; Hartford, Connecticut; Philadelphia, Pennsylvania; and Portland, Oregon, and it plans to deploy VoIP in additional markets in 2006.[226] Comcast's VoIP service is a primary service that offers E911 capability and provides battery backup power for up to eight hours.[227] As the largest cable telephone service provider in the nation, Cox has more than 1.4 million residential telephone subscribers using both circuit-switched and VoIP technologies.[228] Cox offers VoIP service in five markets and by the end of 2005, Cox planned to extend its VoIP service to Las Vegas, Nevada; Macon, Georgia; Central Florida (includes Gainesville and Ocala, Florida); Gulf Coast Florida (includes Fort Walton Beach and Pensacola, Florida); and Topeka, Kansas.[229] Cox provides what it calls a "lifeline service" that includes E911 service as a standard feature in all of its telephone markets and back-up power so that its digital phone service continues to work during a power outage.[230] Time Warner has deployed VoIP service to all 31 of its divisions and, as of September 30, 2005, had 854,000 VoIP subscribers.[231] Time Warner's VoIP service includes E911 service but does not include back-up power and will not function during a power outage.[232] Cablevision's VoIP service is available to 4.4 million homes and at the end of June 2005 the service had 478,000 subscribers, up from the 272,688 subscribers reported at the end of 2004.[233] Cablevision's VoIP service provides E911 service. It uses household electrical power and will not operate if the power in the home goes out.[234] Cablevision offers VoIP subscribers a battery back-up option that allows several hours of continued operation in the event of a power outage.[235] The network remains powered for several hours during a loss of electrical current, so with the battery back-up option VoIP subscribers continue to have service during an electrical interruption as long as they are not using electric telephones.[236] Charter offers

(Continued from previous page)
Priority Ringing, Long Distance Alert, Call Waiting ID, Selective Call Forwarding, and Voice Mail (optional). *See* Cox Communications Inc., at http://www.cox.com/Fairfax/telephone/rates.asp (visited Oct. 21, 2005).

[225] *See* Comcast Corp., at http://www.cmcsk.com/phoenix.zhtml?c=147565&p=irol-telephone (visited Oct. 11, 2005).

[226] Comcast Comments at 52.

[227] *See* Comcast Corp., at http://www.cmcsk.com/phoenix.zhtml?c=147565&p=irol-telephone (visited Oct. 11, 2005).

[228] Cox Communications Inc., *Cox Names New 2005 Telephone Markets* (press release), Aug. 1, 2005.

[229] *Id.*

[230] *Id.*

[231] Letter from Arthur H. Harding, Counsel for Time Warner, Inc., to Marlene H. Dortch, Secretary, FCC, MB Docket No. 05-192 (Nov. 10, 2005) at 4.

[232] *See* Time Warner Cable, at http://www.timewarnercable.com/CustomerService/FAQ/TWCFaqs.ashx?faqID=1178&MarketID=19&CatID=1392 (visited Oct. 11, 2005).

[233] Cablevision Systems Corp., *Optimum Voice Adds Valuable New Features, Debuts Enhanced and User-Friendly Web Portal* (press release), Aug. 17, 2005; Cablevision Systems Corp., *Cablevision Systems Corporation Reports Fourth Quarter and Full Year 2004 Results* (press release), Feb. 23, 2005.

[234] Cablevision Systems Corp., *Optimum Voice Adds Valuable New Features, Debuts Enhanced and User-Friendly Web Portal* (press release), Aug. 17, 2005.

[235] *Id.*

[236] *See Cablevision Integrates Home Security Systems in VoIP Service*, CONVERGE NETWORK DIGEST, June 29, 2005, at http://www.convergedigest.com/searchdisplay.asp?ID=15207&SearchWord=cablevision (visited Oct 28, 2005).

telephone service to 45,400 subscribers using VoIP in most markets.[237] Charter's VoIP service provides E911 service, and Charter's network has a built-in emergency battery backup that provides telephone service for most customers for eight to ten hours.[238] In addition, between January 10, 2005, and October 11, 2005, Adelphia engaged in a limited trial of VoIP services in the Colorado Springs, Colorado, area. Adelphia reports that it has no plans to conduct further trials or provide VoIP service during the pendency of its proposed sale to Comcast and Time Warner.[239]

68. ***Mid-sized and Smaller Cable Operators.*** The FCC Form 325 samples cable systems with between 5,000 and 20,000 subscribers and also surveys a sample of systems with fewer than 5,000 subscribers. Findings from data collected for 2004 show that in these smaller systems high-speed data service, digital cable service, and telephony are being offered. In particular, for systems with 5,000 or fewer subscribers, 33 percent offer high-speed Internet service, 45 percent offer digital cable service, 3 percent offer telephony services and 16 percent have cable plants with capacities of 750 MHz or greater. For systems with between 5,000 and 20,000 subscribers, 94 percent offer high-speed Internet service, 94 percent offer digital cable service, 6 percent offer telephony services and 68 percent have capacities of 750 MHz or greater.[240]

69. This year we examined six mid-sized and smaller cable operators to identify the advanced services they provide.[241] All provide high-speed Internet service. All provide digital video service but not all offer VOD, HDTV, and DVR service. Most provide telephone service and some use VoIP technology.[242] Bresnan Communications serves over 300,000 subscribers in Colorado, Montana, Wyoming, and Utah, offering a full range of advanced services that include digital video service, VOD, HDTV, DVR, high-speed Internet service, and digital telephone service to residential and business subscribers over an upgraded fiber-optic coaxial network.[243] Service Electric Cable TV &

[237] Charter Communications Inc., *Charter Reports Fourth Quarter and Annual 2004 Financial and Operating Results* (press release), Mar. 1, 2005; Charter Communications, at http://www.charter.com/products/telephone/telephone.aspx (visited Sept. 15, 2005).

[238] Charter Communications Inc., *Inland Empire and High Desert Residents Will be First in California to Experience Charter Telephone Service* (press release), Oct. 5, 2005.

[239] Letter from Angie Kronenberg, Counsel for Adelphia, to Marlene H. Dortch, Secretary, FCC, MB Docket No. 05-192 (Dec. 22, 2005) at 161. *See also* n.95 *supra* (application for transfer of control of Adelphia to Comcast and Time Warner).

[240] 2004 FCC Form 325 data.

[241] The six mid-sized and smaller cable companies include Bresnan Communications, Service Electric Cable TV & Communications, Susquehanna Communications, Buckeye CableSystem, US Cable Group, and Sunflower Broadband. *See also* Michael Hopkins, *Thriving (Albeit Small) Empires: Independent MSOs Retool Systems, Expand Offerings in Highly-Competitive Markets*, THE BRIDGE, Sept. 30, 2005.

[242] Cable operators have signed agreements with telephone companies to assist in the provision of VoIP. For example, Sprint Corporation provides VoIP provisioning, switching, interconnections with the public switched telephony network, enhanced 911 services, local number portability, and directory assistance to Massillon Cable TV Inc., Wave Broadband, and Blue Ridge Communications. Karen Brown, *Sprint Lands Trio of Cable Deals, Passes Milestone*, CED, Apr. 4, 2005, at http://www.cedmagazine.com/cedailydirect/2005/ 0405/cedaily050404.htm#6 (visited Oct. 14, 2005).

[243] *See* Bresnan Communications, at http://www.bresnan.com/unst/about (visited Sept. 19, 2005). Bresnan's first VoIP market was Grand Junction, Colorado where service began in February 2005. K.C. Neel, *Triple-Play Junction: Grand Junction System is the Jewel of Bresnan's Eye*, MULTICHANNEL NEWS, Feb. 28, 2005, at http://www.multichannel.com/article/CA506703.html?display=Search+Results&text= Triple%2DPlay+Junction (visited Oct. 14, 2005).

Communications serves approximately 280,000 subscribers in Pennsylvania and New Jersey.[244] Service Electric offers digital video service, HDTV, DVR, high-speed Internet service, and digital telephone service to residential and business subscribers.[245] Service Electric does not offer VOD service. Susquehanna Communications serves approximately 233,000 subscribers in Pennsylvania, New York, Illinois, Indiana, Maine, and Mississippi.[246] An advanced hybrid fiber optic and coaxial network is in place or under construction in nearly 93 percent of Susquehanna Communications' service area and is expected to be fully deployed in the next two years.[247] Susquehanna Communications offers digital video service, HDTV, DVR, high-speed Internet service, and digital telephone service to residential and business subscribers.[248] Susquehanna Communications does not offer VOD service. Buckeye CableSystem serves approximately 149,000 subscribers in Ohio, Michigan, and New York.[249] Buckeye CableSystem offers digital video service, VOD, HDTV, DVR, high-speed Internet service, and residential telephone service.[250] US Cable Group serves over 140,000 subscribers in Minnesota, Wisconsin, South Carolina, Georgia, Florida, Missouri, Texas, New Mexico, Colorado, and New Jersey.[251] US Cable Group offers digital video service to over 90 percent of homes passed.[252] US Cable Group also offers high-speed Internet service.[253] US Cable Group does not offer VOD, HDTV, DVR, or residential telephone service. Sunflower Broadband operates cable systems in Kansas and offers digital video service, VOD, HDTV, DVR, high-speed Internet service, and digital telephone service to residential and business subscribers.[254] In May 2005, Sunflower Broadband became one of the first cable companies in the country to offer an all digital channel line-up.[255] Digital cable subscribers can now see all channels with digital quality picture and sound.[256]

B. Direct-to-Home Satellite Services

1. Direct Broadcast Satellite

70. DBS service is provided via satellite to small parabolic "dish" antennas located at the individual residences of consumers or at business or educational organizations.[257] Three operators

[244] *See* Service Electric Cable TV & Communications, at http://www.sectv.com/comp.shtml (visited Sept. 19, 2005). *See also* NCTA, *Top 25 MSOs Ranked by Number of Customers*, Cable Developments 2005, at 24.

[245] *See* Service Electric Cable TV & Communications, at http://www.sectv.com/prod.shtml (visited Sept. 19, 2005).

[246] *See* Susquehanna Communications, at http://www.suscom.com/about/pfaltzgraff.php (visited Sept. 19, 2005).

[247] *Id.*

[248] *See* Susquehanna Communications, at http://www.suscom.com/home (visited Oct. 6, 2005).

[249] *See* Buckeye CableSystem, at http://www.buckeyecablesystem.com/index.html#indtop (visited Oct. 6, 2005). *See also* NCTA, *Top 25 MSOs Ranked by Number of Customers*, Cable Developments 2005, at 24.

[250] *See* Buckeye CableSystem, at http://www.buckeyecablesystem.com/main_tol.html (visited Oct. 6, 2005).

[251] *See* US Cable Group, at http://www.uscablegroup.com/operating_companies.htm (visited Sept. 19, 2005).

[252] *See* US Cable Group, at http://www.uscable.com/aboutus.htm (visited Sept. 19, 2005).

[253] *Id.*

[254] *See* Sunflower Broadband, at http://www.sunflowerbroadband.com (visited Sept. 19, 2005).

[255] *Id.*

[256] *Id.*

[257] We define the Direct Broadcast Satellite Service as "[a] radiocommunication service in which signals transmitted or retransmitted by space stations, using frequencies specified in § 25.202(a)(7), are intended for direct reception by the general public. For the purposes of this definition, the term direct reception shall encompass both individual reception and community reception." 47 C.F.R. § 25.201. *See also 2004 Report*, 20 FCC Rcd at 2792 ¶ 53. We (continued....)

provide DBS service: DIRECTV, EchoStar (marketed as the DISH Network), and Dominion Video Satellite, Inc. (marketed as Sky Angel).[258]

71. Last year we reported on the Cablevision subsidiary Rainbow DBS, which began providing MVPD services under the VOOM brand name in October 2003. In December 2004, the Cablevision Board of Directors decided to pursue "strategic alternatives" for the Rainbow DBS assets. In January 2005, Cablevision reached an agreement with EchoStar to sell its Rainbow 1 satellite, located at the 61.5° W.L. orbital position; Commission licenses to construct, launch and operate DBS services over 11 channels at the 61.5° W.L. orbital position; and contents of Rainbow DBS' ground facility in Black Hawk, South Dakota. Cablevision continued to explore uses for VOOM's programming.[259] Subsequently, Rainbow DBS ended its VOOM service, which had attained a total subscribership of approximately 26,000 homes, and announced that it was launching a new HD programming service with 21 channels, 10 of which EchoStar agreed to carry initially, with all 21 being available to EchoStar subscribers by 2006.

72. ***Subscribership.*** As of June 2005, approximately 26.12 million U.S. households subscribed to DBS service. This represents an increase of 12.8 percent over the 23.16 million DBS subscribers we reported last year.[260] DBS accounts for approximately 27.7 percent of all U.S. MVPD subscribers.[261] Analysts attribute DBS' continued growth to the increase in local-into-local broadcast stations; service enhancements, including multiple room viewing solutions and HDTV; and the ability to co-market DSL service.[262] In terms of subscriber penetration, DBS penetration initially occurred primarily in rural and small markets, but as a recent GAO study found, since 2001, DBS penetration has grown rapidly and increased in suburban and urban areas.[263] According to GAO, the DBS penetration rate was over 36 percent in areas where cable operators did not provide advanced services, such as digital cable, cable modem service and telephone service, compared with approximately 16 percent in areas where cable operators provided one or more such services, but not all, and only 14 percent in areas where cable operators provided all three advanced services.[264] GAO also reported that the DBS penetration rate

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note that this definition of DBS does not cover services offered in the Ka-band, although DBS operators have indicated that they plan to use this frequency band to provide future direct-to-home video services to subscribers.

[258] Dominion holds licenses for eight channels at the 61.5° W.L. orbital position.

[259] Cablevision Systems Corporation, *Cablevision to Sell Rainbow Direct Broadcast Satellite and Certain Related Assets to EchoStar for $200 Million* (press release), Jan. 20, 2005.

[260] *See 2004 Report*, 20 FCC Rcd at 2792 ¶ 54.

[261] *See* Appendix B, Table B-1 *infra*.

[262] Doug Shapiro, *4Q Wrap-Up: Connecting the Pixels*, Banc of America Securities Equity Research, Mar. 23, 2005. Shapiro also credits DIRECTV's mandatory set-top box security upgrade for improving DIRECTV's subscriber growth. Last year, we reported that analysts attributed DBS growth to an increase in niche programming, increased availability of local broadcast stations, and free set-top box equipment. *2004 Report*, 20 FCC Rcd at 2792 ¶ 54.

[263] *See* U.S. Government Accountability Office, *Direct Broadcast Satellite Subscribership Has Grown Rapidly, but Varies Across Different Types of Markets*, GAO-05-257, Apr. 2005. According to GAO, in 2001, DBS penetration rates were nearly 26 percent in rural areas, 14 percent in suburban areas, and about 9 percent in urban areas. By 2004, DBS penetration rates had increased to approximately 29 percent in rural areas, 18 percent in suburban areas, and 13 percent in urban areas. Over the 2001 to 2004 time frame, the DBS penetration rate grew about 50 percent and 32 percent in urban and suburban areas, respectively, compared with a growth rate of 15 percent in rural areas. *Id.* at 3.

[264] *Id.* at 11.

is 12 percent higher in areas where DBS customers can receive local-into-local service than where local-into-local is not available.[265]

73. DIRECTV is the largest DBS provider and second largest MVPD. DIRECTV served 14.67 million subscribers as of June 2005, an increase of 1.63 million, or 12.5 percent, from the 13.04 million subscribers as of June 2004.[266] EchoStar is the second largest DBS provider and third largest MVPD, with approximately 11.45 million subscribers as of June 30, 2005, an increase of 13.1 percent over the 10.12 million subscribers a year earlier.[267] Dominion Video Satellite's Sky Angel service serves fewer than one million subscribers and provides 20 family and religion-oriented channels.[268]

74. ***Service and Equipment Pricing***. DIRECTV and EchoStar offer numerous programming packages. DIRECTV offers three English language programming packages and four Spanish language programming packages.[269] EchoStar offers five English language and three Spanish language program packages.[270] EchoStar and DIRECTV also offer packages to subscribers in Hawaii and Alaska.[271] Sky Angel service is not available in Hawaii or Alaska. In February 2005, EchoStar raised the prices on its English language program packages by an average of 6.5 percent, citing an increase of seven percent in programming costs.[272] EchoStar did not raise the price of its three Spanish language packages.[273]

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[265] *Id.* at 15.

[266] The DIRECTV Group, Inc., *SEC Quarterly Report Form 10-Q Pursuant to Section 13 or 15(d) of the Securities Act of 1934 for the Quarterly Period Ended June 30, 2005*, at 40.

[267] EchoStar Communications Corp., *SEC Quarterly Report Form 10-Q Pursuant to Section 13 or 15(d) of the Securities Act of 1934 for the Quarterly Period Ended June 30, 2005*, at 25.

[268] Sky Angel's subscribership was provided in a telephone conversation with Nancy Christopher, Vice President, Public Relations, Dominion Video Satellite. We have reported previously that Sky Angel had approximately one million subscribers. *See, e.g., 2002 Report*, 17 FCC Rcd at 26930 ¶ 59.

[269] DIRECTV's Total Choice package, which includes over 135 channels of nonbroadcast programming and local broadcast stations, costs $41.99 per month; Total Choice Plus, which includes 155 channels of nonbroadcast programming and local broadcast stations, costs $45.99 per month; and Total Choice Premier, which includes over 215 channels of nonbroadcast programming and local broadcast stations, costs $93.99 per month. If local broadcast stations are not available in a particular market, DIRECTV deducts $3.00 per month from the price of the package.

[270] EchoStar Comments at 15; EchoStar Communications Corp., Programming, at http://www.dishnetwork.com/content/ programming/packages/index.shtml.

[271] EchoStar requires the purchase of an additional dish in order to receive certain channels in Alaska and Hawaii. EchoStar broadcasts the majority of its basic and premium programming from its satellites located at the 119° and 110° W.L. orbital locations. According to EchoStar, customers residing in Alaska or Hawaii are not able to receive the 110° satellite signal or any of the channels broadcast from this satellite with EchoStar's standard 20-inch dish. It offers a 24-inch satellite dish to subscribers in Alaska and Hawaii. Nevertheless, some programming is entirely inaccessible. *See* EchoStar Communications Corp., at http://www.dishnetwork.com/content/programming/ packages/ hawaii/top_60_120/index.shtml. According to DIRECTV, its service offerings in Hawaii are identical to the national programming available on the mainland. *See* Letter from Stacy Fuller, Vice President, Regulatory Affairs, DIRECTV, to Marlene H. Dortch, Secretary, FCC, MB Docket No. 03-82 (Nov. 16, 2005).

[272] *Ergen Laments Price Jump, Hints at DISH HD Future*, SKYREPORT, Jan. 11, 2005. EchoStar's America's Top 60 with local channels programming package price increased $2.00 per month, or 6.7 percent, to $31.99; America's Top 120 and America's Top 180 without local channels increased $3.00, or 8.5 percent, to $37.99 and, 6 percent, to $47.99, respectively. The America's 'Everything' Package increased $4.00 per month, or 5 percent, to $81.99. One analyst described EchoStar's price increases as larger than the percentage price increases of large cable operators in 2004 because EchoStar's increases applied to its entire video package, including channels that would be available on cable operators' digital tiers, while cable operators' price increases tend to affect their basic video tiers. George (continued….)

75. Subscribers to DBS service need a satellite dish and a set-top box. EchoStar and DIRECTV continue to rely on discounted set-top box equipment, free satellite dishes, and free installation to attract new customers.[274] With respect to equipment, DIRECTV and EchoStar offer a wide range of set-top box receivers. EchoStar's Digital Home Advantage plan offers discounts on programming packages based on the number of receivers the subscriber leases.[275] DIRECTV states that it does not lease equipment,[276] but it is reported to be considering introducing a leasing model for its equipment in early 2006.[277]

76. ***Availability of Local Broadcast Stations.*** Local broadcast television station availability is approaching 100 percent for both EchoStar and DIRECTV. In 167 of 210 television markets (*i.e.*, designated market areas, or DMAs), which represent 96 percent of all U.S. television households, at least one DBS provider offers the signals of local broadcast stations (local-into-local service).[278] EchoStar offers local-into-local service in 162 DMAs and Puerto Rico, representing approximately 95 percent of U.S. television households.[279] DIRECTV offers local-into-local service in 134 markets, representing 93 percent of U.S. television households.[280] EchoStar charges an additional $5.99 where the major four broadcasting networks are available, whereas DIRECTV's program packages automatically include local broadcast signals where it offers local-into-local service.[281]

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Mannes, *EchoStar Launches Price Hike*, TheStreet.com, Jan. 5, 2005, citing Sanford Bernstein analyst Craig Moffett.

[273] DISH Latino with 30 channels and local broadcast stations is $29.99 per month; DISH Latino DOS with 120 channels and local broadcast stations is $39.99 per month; and DISH Latino MAX with over 160 channels and local broadcast stations is $49.99 per month. *See* EchoStar Comments at 15.

[274] The cost of discounted equipment is reflected in DIRECTV's and EchoStar's subscriber acquisition cost (SAC), which describes the cost of acquiring a new subscriber. For example, as of June 30, 2005, EchoStar's SAC was $667 per subscriber, up 16 percent from a year ago; DIRECTV's SAC was $646 per subscriber, up almost 5 percent from a year ago. Christy Rickard, *DBS Net Adds Down, Profits Up*, The DBS Report (Kagan Research LLC), Aug. 29, 2005, at 3.

[275] For example, EchoStar's America's Top 120 Digital Home Advantage package costs $42.99 per month for up to two televisions and increases to $47.99 for subscribers using three or four multi-room receivers. In addition, under this plan, EchoStar charges $4.98 per month per multi-room receiver. *See* EchoStar Communications Corp., at http://wwwidshnetwork.com/images/getdish/ promotions/dha/dha_price.gif.

[276] DIRECTV Comments at 18.

[277] Linda Moss, *DIRECTV Opts For a Leasing Model*, MULTICHANNEL NEWS, Jan. 23, 2006.

[278] Based on Nielsen's 2004-2005 U.S. Television Households in 210 DMAs. Last year, we reported that at least one DBS provider offered local broadcast stations in 155 of 210 DMAs. *2004 Report*, 20 FCC Rcd at 2795 ¶ 58.

[279] In 64 DMAs, EchoStar requires the use of a "SuperDISH," which enables customers to receive signals from three orbital locations, the third of which allows customers to receive local programming. *See* EchoStar Satellite, LLC, http://www.dishnetwork.com/content/programming/locals/index.asp.

[280] The DIRECTV Group, Inc., Local Channel Markets, at http://www.directv.com/DTVAPP/see/ LocalChannels_markets.jsp. In 60 of these markets, DIRECTV requires the use of a DIRECTV Multi-Satellite System, and in 26 markets, it requires the use of a second 18-inch DIRECTV dish. In October 2005, DIRECTV announced that it would offer local broadcast channels in Mankato and Rochester, Minnesota, and Zanesville, Ohio by the end of 2005. *See* The DIRECTV Group, Inc., *DIRECTV Will Offer Local Channels in Three More Markets by Year-End* (press release), Oct. 13, 2005. The DIRECTV Group serves Puerto Rico through its DIRECTV Latin America subsidiary, which offers local stations.

[281] EchoStar Comments at 15. EchoStar charges $4.99 where only three of the four major networks are offered, and it charges $3.99 where only two of the four are offered.

77. ***Regulatory Issues.*** On December 8, 2004, the Satellite Home Viewer Extension and Reauthorization Act of 2004 (SHVERA) was enacted.[282] The Commission continues to implement the provisions of SHVERA related to the carriage of broadcast signals by DBS operators. In June 2005, pursuant to SHVERA, the Commission extended reciprocal good-faith bargaining obligations for retransmission consent negotiations to cable and satellite operators.[283] In August 2005, in accordance with SHVERA, the Commission ordered that DBS operators provide analog signals to Alaska and Hawaii, and specified that carriage elections for analog and digital signals must be made by October 1, 2005, and April 1, 2007, respectively, in order to meet the statutory requirement that satellite carriers provide these signals to substantially all of their subscribers in each station's local market by December 8, 2005 for analog signals and by June 8, 2007 for digital signals.[284] In September 2005, pursuant to SHVERA, the Commission submitted a report to Congress on the impact on competition in the MVPD market of the current retransmission consent provisions and the network nonduplication, syndicated exclusivity, and sports blackout rules, including the effect of those rules on the ability of rural cable operators to compete with the DBS industry in the provision of digital broadcast television signals to consumers.[285] The Commission did not recommend any changes to the statutory provisions relating to those Commission rules.[286] In November 2005, pursuant to SHVERA, the Commission established rules and regulations by which satellite carriers may offer Commission-determined "significantly viewed" signals of out-of-market (or "distant") broadcast stations to subscribers.[287] In December 2005, pursuant to Section 204(b) of SHVERA, the Commission submitted a Report to Congress concerning the digital signal strength standard and the signal testing procedures used to identify whether a household is

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[282] Pub. L. No. 108-447, 118 Stat 2809 (2004) (codified in scattered sections of 17 and 47 U.S.C.). SHVERA was enacted as Title IX of the Consolidated Appropriations Act, 2005. SHVERA extended certain provisions of the Satellite Home Viewer Improvement Act, primarily those pertaining to the distant signal copyright license and retransmission consent negotiations, for five years. It also added new provisions to the Communications and Copyright Acts pertaining to the retransmission by DBS of distant broadcast signals, including the option to carry broadcast stations deemed "significantly viewed" by the Commission. As required by the Satellite Home Viewer Improvement Act of 1999 (SHVIA), the Commission established rules to implement carriage of broadcast signals, retransmission consent, and program exclusivity with respect to satellite carriage of broadcast stations. SHVIA provides DBS carriers with the opportunity to carry local stations in a Designated Market Area (DMA) pursuant to a statutory copyright license similar to the one provided cable operators. If a DBS operator selects this option in a DMA, however, it must carry all the local stations in the DMA, effective January 1, 2002. *See also Implementation of the Satellite Home Viewer Improvement Act 1999: Broadcast Signal Carriage Issues, Retransmission Consent Issues*, 16 FCC Rcd 1918 (2000); *Implementation of the Satellite Home Viewer Improvement Act of 1999: Broadcast Signal Carriage Issues*, 16 FCC Rcd 16544 (2001); *Implementation of the Satellite Home Viewer Improvement Act of 1999: Retransmission Consent Issues: Good Faith Negotiation and Exclusivity*, 16 FCC Rcd 15599 (2001).

[283] *Implementation of Section 207 of the Satellite Home Viewer Extension and Reauthorization Act of 2004, Reciprocal Bargaining Obligation*, 20 FCC Rcd 10339 (2005).

[284] *Implementation of the Satellite Home Viewer Extension and Reauthorization Act of 2004 to Amend Section 338 of the Communications Act*, 20 FCC Rcd 14242 (2005). SHVERA amended certain rules concerning the carriage of local television broadcast stations by satellite carriers, specifically by requiring satellite carriers to carry the analog and digital signals of television broadcast stations in local markets in states that are not part of the contiguous United States.

[285] *Retransmission Consent and Exclusivity Rules: Report to Congress Pursuant to Section 208 of the Satellite Home Viewer Extension and Reauthorization Act of 2004*, Sept. 8, 2005.

[286] *Id.* at ¶ 86.

[287] *See Implementation of the Satellite Home Viewer Extension and Reauthorization Act of 2004, Implementation of Section 340 of the Communications Act*, 20 FCC Rcd 17278 (2005).

"unserved" for purposes of the satellite statutory copyright license for distant digital signals.[288] The Commission is currently undertaking a number of other rulemaking proceedings to implement SHVERA.[289]

78. ***Satellite Fleet Developments and Video Capacity.*** DIRECTV launched new satellites this year. In October 2005, DIRECTV took on-orbit delivery of SPACEWAY F1, which was launched in April 2005 and which is the first of four Ka-band satellites that DIRECTV will use to distribute local HD broadcast signals into several large markets.[290] In November 2005, DIRECTV also launched SPACEWAY F2.[291] Together, SPACEWAY F1 and SPACEWAY F2 are expected to provide local digital and HD signals to approximately 24 markets, representing 45 percent of U.S. television households.[292] DIRECTV states that the combined capacity of the four satellites will enable DIRECTV to retransmit more than 150 national channels in high-definition and the digital signals of approximately 1,500 local broadcast stations.[293] In order for DIRECTV subscribers to access programming transmitted by the new satellites, they will have to upgrade to a new satellite dish and HD compatible set-top box.[294] In May 2005, DIRECTV launched DIRECTV 8, a Ku/Ka-band hybrid satellite that will supplement DIRECTV's existing satellite fleet and will replace an older DIRECTV satellite, which will function as a back-up satellite, at the 101° W.L. orbital location.[295] In early 2006, EchoStar is expected to launch its

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[288] *See Report to Congress, The Satellite Home Viewer Extension and Reauthorization Act of 2004, Study of Digital Television Field Strength Standards and Testing Procedures,* 20 FCC RCd 19504 (2005). In the Report, the Commission concluded that it did not need to make changes to the digital television field strength standards. We did determine, however, that a rulemaking proceeding should be conducted to specify procedures for measuring the field strength of digital television signals at individual locations that are generally similar to the current procedures for measuring the field strength of analog television stations. We also concluded that the existing, Individual Location Longley-Rice model should be used for predicting whether a household is unserved by digital television signals.

[289] *See Implementation of the Satellite Home Viewer Extension and Reauthorization Act of 2004, Procedural Rules,* 20 FCC Rcd 7780 (2005) (amending rules as specified in SHVERA).

[290] *See* The DIRECTV Group, Inc., *Boeing Delivers Next-Generation Commercial Satellite to DIRECTV, Inc.* (press release), Oct. 10, 2005. *See also* The DIRECTV Group, Inc., *DIRECTV's Spaceway F1 Satellite Launches New Era in High-Definition Programming; Next Generation Satellite Will Initiate Historic Expansion of DIRECTV Programming* (press release), Apr. 26, 2005.

[291] *Spaceway Bird Finally Takes Flight,* SATELLITE BUSINESS NEWS FAXUPDATE, Nov. 18, 2005.

[292] According to DIRECTV, Spaceway 1 and Spaceway 2 will have the capacity for more than 500 local HD broadcast channels. Two other satellites to be launched in early 2007 will have combined capacity for more than 1,000 local HD broadcast channels and more than 150 national HD channels. All four satellites will use spot-beam technology to deliver local channels. *See* John Mansell, *New Strategies for DIRECTV and EchoStar*, The DBS Report (Kagan Research), Jan. 24, 2005, at 8; The DIRECTV Group, Inc., *DIRECTV Announces First 12 Markets to Receive Local Channels in High-Definition This Year* (press release), Jan. 6, 2005; The DIRECTV Group, Inc., *DIRECTV Spaceway F2 Satellite Will Expand Local Digital/HD Services for DIRECTV Customers* (press release), May 25, 2005.

[293] DIRECTV Comments at 4.

[294] The DIRECTV Group, Inc., *DIRECTV Announces First 12 Markets to Receive Local Channels in High-Definition This Year* (press release), Jan. 6, 2005. According to DIRECTV, it will transmit all local HD and other new services using MPEG-4 AVC, a new standard in digital video compression, and advanced modulation that it states will improve DIRECTV's Ka-band capacity. To receive the HD programming, subscribers will require a new, slightly larger dish antenna and a new HD set-top box compliant with the MPEG-4 standard.

[295] The DIRECTV Group, Inc., *DIRECTV 8 Satellite Will Strengthen Service to DIRECTV Customers* (press release), May 22, 2005.

Echo X satellite at the 129° W.L. orbital location, which will be used to eliminate the need for some of its subscribers to use multiple dishes to receive programming.[296]

2. Home Satellite or Large Dish Service

79. The home satellite dish (HSD), or large dish, segment of the satellite industry is the original satellite-to-home service offered to consumers. It involves the home reception of analog signals transmitted by satellites operating in the C- and Ku-band frequencies, generally referred to here as C-band. Satellites in the C-band frequency are used primarily to transmit programming to cable operators via C-band receiving dishes at the cable operator's central technical facility or "headend." To be authorized to receive one or more scrambled channels, an HSD owner must purchase an integrated receiver-decoder from an equipment dealer and then pay a monthly or annual subscription fee to a program packager.[297]

80. As of June 2005, there were 206,358 households authorized to receive HSD service, a decrease of 38.5 percent from the 335,766 we reported last year.[298] By one estimate, an additional 100,000 households watch unscrambled channels.[299] In addition, two C-band program packagers have reported the number of subscribers they serve: National Programming Service, LLC (NPS) states that it provides service to approximately 100,000 customers, and Superstar/Netlink reports that it serves approximately 170,000 subscribers.[300] We observe that, combined, these subscriber counts exceed what has been reported by Motorola's Access Control Center and thus raise a question about the actual number of C-band subscribers.

81. Motorola introduced a digital home satellite dish solution called 4DTV, which enables C-band customers to receive digital only satellite channels in addition to available analog programming.[301] 4DTV allows customers to receive four types of programming: (1) free, unscrambled analog channels and so-called "wild feeds;" (2) VideoCipher II Plus subscription services; (3) free DigiCipher II services; and

[296] EchoStar Communications Corp., *Quarterly Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the Quarterly Period Ended September 30, 2005*, at 13.

[297] HSD systems are typically designed to receive programming from several different satellites at several different orbital locations. Most HSDs include motors that permit the receiving dishes to rotate and receive signals from these many satellites. Space considerations and zoning regulations restrict many viewers' ability to install the large antenna needed for HSD reception.

[298] *C-Band Decline Continues*, Satellite Business News FAXUpdate, July 6, 2005. The number is based on a report from Motorola's Access Control Center, which oversees authorizations and de-authorizations of satellite receivers using Motorola's proprietary conditional access systems.

[299] Jeffrey Krauss, *The End of the Big, Ugly Dish?*, CED Magazine, June 2005, at http://www.cedmagazine.com/ced/2005/0605/06cc.htm.

[300] Comments of National Programming Service and Reply Comments of EchoStar Acquisition L.L.C filed in *2000 Biennial Regulatory Review Streamlining and Other Revisions of Part 25 of the Commission's Rules Governing the Licensing of, and Spectrum Usage by, Satellite Network Earth Stations*, 20 FCC Rcd 5593 (2005) (*2000 Satellite Biennial*). In April 2004, EchoStar purchased Superstar/Netlink Group, LLC. *See 2004 Report*, 20 FCC Rcd at 2799 ¶ 64, n. 342.

[301] 4DTV is Motorola's proprietary digital television receive-only communications satellite receiver box and uses the Motorola DigiCipher II, or DCII, standard of signal encryption and compression. 4DTV receivers are also capable of receiving analog satellite transmissions. *See* Motorola, Inc., at http://www.4dtv.com/ (visited Jan. 14, 2005). VideoCipher is the conditional access system used by most C-band receivers to decode subscription based and premium satellite TV channels. DigiCipher II, or DCII, is Motorola's proprietary video distribution system that is used by most digital satellite channels.

(4) subscription-based DigiCipher II channels. The price of 4DTV digital receivers has decreased, retailing for approximately $550.00 today, compared with $800.00 last year.[302]

82. In March 2005, the Commission issued a notice of proposed rulemaking concerning technical changes to its earth station rules, including a proposal to prohibit analog video transmission in the C-band, with a one-year transition period.[303] This proceeding is pending.

3. Satellite-Based Advanced Services

83. ***Broadband Satellite Services.*** WildBlue, a new satellite-based two-way broadband Internet service provider, initiated service on the Telesat Anik F2 Ka-band "spot beam" satellite, which was launched in July 2004.[304] In June 2005, WildBlue acquired its first subscriber.[305] WildBlue offers three service packages for residential subscribers ranging in price from $49.95 to $79.95, with download speeds from 512 Kbps to 1.5 Mbps and upload speeds from 128 Kbps to 256 Kbps.[306] WildBlue's equipment retails for $299.00 plus required professional installation cost of $179.95.[307] Hughes Network Systems' continues to offer DIRECWAY's satellite-based, two-way, high-speed Internet access to consumers.[308] As of June 30, 2005, DIRECWAY had approximately 253,000 residential and business customers.[309] In September 2005, DIRECWAY introduced new modems, which DIRECWAY claims will deliver faster download and upload rates, and new pricing plans for residential and business subscribers.[310] Existing DIRECTV subscribers cannot use their DIRECTV dish to receive DIRECWAY

[302] *2004 Report*, 20 FCC Rcd at 2799 ¶ 65. The price of a receiver is often significantly discounted with the purchase of a programming package. For example, C-band programming provider Skyvision offers the Motorola 4DTV DSR922 receiver, with a retail price of $550.00, for $399.00 with the purchase of a programming package. *See* Skyvision, Inc., at http://www.skyvision.com/store/mi4509029.html.

[303] *2000 Satellite Biennial*, 20 FCC Rcd at 5625 ¶ 88.

[304] WildBlue is a joint venture of the National Rural Telecommunications Cooperative, Intelsat, Ltd., Liberty Media Corporation, and Kleiner Perkins Caufield and Byers, a venture capital firm.

[305] WildBlue Communications Inc., *WildBlue Installs First Customer* (press release), June 3, 2005.

[306] WildBlue offers two business plans for $69.95 and $79.95 with download speeds of 1.0 Mbps and 1.5 Mbps, respectively, and upload speeds of 200 Kbps and 256 Kbps, respectively.

[307] WildBlue Communications, Inc., Packages and Pricing, at http://www.wildblue.com/forYourHome/index.jsp.

[308] In December 2004, The DIRECTV Group agreed to sell 50 percent of its subsidiary, Hughes Networks Systems, to SkyTerra Communications Inc., an affiliate of Apollo Management, L.P., a New York-based private equity firm. The transaction closed in April 2005. *See* The DIRECTV Group, Inc., *SkyTerra Communications to Acquire 50 Percent of Hughes Network System from THE DIRECTV Group* (press release), Dec. 6, 2004; Hughes Network Systems, LLC, *SkyTerra Communications and The DIRECTV Group Complete New Ownership Structure for Hughes Network Systems* (press release), Apr. 25, 2005.

[309] Hughes Network Systems, LLC, *Hughes Network Systems Achieves 26 percent Growth in Consumer and Small Business Subscribers for DIRECWAY Service* (press release), July 12, 2005. According to Hughes, this represents a 26 percent increase from June 2004.

[310] Hughes Network Systems, LLC, *Hughes Network Systems Boosts Speed and Performance of DIRECWAY Satellite Broadband* (press release), Sept. 12, 2005. DIRECWAY offers two residential pricing plans. The Home Plan costs $599.00 for equipment and installation and $59.99 per month with a 15-month commitment. The Home Plan provides download speeds up to 700 Kbps and upload speeds up to 128 Kbps. The Professional Plan is $599.00 for equipment and installation and $69.99 per month with a 15-month service contract. It provides download speeds up to 1.0 Mbps and upload speeds up to 200 Kbps. Alternatively, subscribers can choose to pay $99.99 upfront for equipment and installation and $99.99 per month for the Home Plan or $109.99 per month for the Professional Plan, including a 15-month term service contract. After the 15-month contract period, the monthly subscription rate converts to the standard subscription rates described above. DIRECWAY also provides two service plans for businesses, both of which cost $999.99 for equipment and installation. The Small Office plan costs (continued....)

service, but DIRECWAY satellite dishes can be upgraded to receive DIRECTV DBS service. EchoStar does not offer a satellite-based broadband Internet service at this time.[311]

84. EchoStar and DIRECTV continue to maintain co-marketing relationships with local exchange carriers to offer DSL broadband services. DIRECTV has relationships with Verizon, BellSouth, Qwest and Internet service provider Earthlink. EchoStar has existing relationships with SBC, Sprint, CenturyTel, and Earthlink.[312] In October 2005, EchoStar and ALLTEL signed a co-marketing agreement under which ALLTEL will offer EchoStar's DISH service in 15 states of its 36-state service territory.[313] EchoStar entered into a similar agreement with Frontier Communications, a subsidiary of Citizens Communications Company.[314] With respect to SBC, EchoStar renegotiated its co-marketing relationship with SBC.[315] In areas where SBC will not be immediately deploying its Project Lightspeed, EchoStar and SBC plan to introduce a single receiver manufactured by 2Wire, Inc. to integrate both satellite and DSL in one set-top box.[316]

85. ***Other Advanced Services***. DBS providers continue to offer HD service but remain constrained in what they can offer by the capacity limitations of their satellite fleets. EchoStar's primary HD programming package remains essentially unchanged from last year and includes ESPNHD, Discovery HD, TNT in HD, HDNet and HDNet Movies. Earlier this year, it expanded its HD programming by offering VOOM HD Networks, which includes ten genre-based channels, such as Monsters HD (horror and science fiction programming) and Rush HD (extreme action sports programming). It also offers HBO HDTV, Showtime HDTV, CBS HDTV, and DISH Network Pay-Per-View in HD.[317] EchoStar offers two HD receivers,[318] and has packaged flat panel LCD televisions with

(Continued from previous page)
$99.99 per month and provides download speeds up to 1.5 Mbps and upload speeds up to 300 Kbps. The Business Internet Plan is $199.00 per month and provides download speeds up to 2 Mbps and upload speeds up to 500 Kbps. Both plans require a 2-year service contract. *See* Hughes Network Systems, LLC, Service Offerings, at http://www.direcway.com.

[311] *See 2004 Report*, 20 FCC Rcd at 2799 ¶ 66.

[312] *Id.* at ¶ 67.

[313] *ALLTEL Offering Dish Network*, MULTICHANNEL NEWS, Oct. 19, 2005, at http://www.multichannel.com/article/CA6275774.html. *See* EchoStar Communications Corp., *ALLTEL Signs Agreement to Offer DISH Network TV Service* (press release), Mar. 8, 2005.

[314] EchoStar Communications Corp., *Frontier Communications Announces Strategic Alliance with EchoStar* (press release), Apr. 6, 2005.

[315] Christy Rickard, *EchoStar Inks New Deal with SBC*, The DBS Report (Kagan Research LLC), Sept. 30, 2005, at 3. Under the terms of the agreement, EchoStar will bear installation and equipment costs, while SBC will provide customer service and billing. SBC will receive a commission and a share of revenue from the subscribers it signs up. The agreement covers the 31.4 million households within SBC's local exchange telephone network service area.

[316] *Id.* at 4.

[317] DISH Network HD Pak costs $9.99 per month. VOOM Original HD Pak retails for $5.00 per month, and is only available with a subscription to DISH Network HD Pak. Premium channel HD programming is included free of charge with a subscription to the premium programming. Subscribers must have a DISH Network HD receiver, HD television and a dish antenna pointing at the appropriate orbital location. Some subscribers may require a second dish antenna to receive certain HD programming. EchoStar Communications Corp., at http://www.dishnetwork.com/content/programming/hdtv/index.shtml.

[318] EchoStar's DISH 811 retails for $399.00 and its DISH Player-DVR 942 retails for $699.00, which offers HD and DVR functionality with a 250 GB hard drive. The DISH Player-DVR 942 can record up to 180 hours of standard-definition programming, or up to 25 hours of HD programming.

its HD set-top boxes to offer an all-in-one equipment and service package.[319] In February 2006, EchoStar began delivering HD local broadcast stations in the New York and Los Angeles markets.[320] DIRECTV's HD Package includes ESPN HD, ESPN2 HD, Discovery HD Theater, HDNet, HDNet Movies and Universal HD for $10.99 per month.[321] DIRECTV delivers the national HD broadcast feed of ABC, CBS, Fox, NBC, and WB in select markets.[322] DIRECTV is planning to use its Spaceway - F1 satellite to deliver HD local broadcast stations in select markets.[323] Beginning in October 2005, DIRECTV launched HD local broadcast stations in several markets.[324]

86. EchoStar and DIRECTV also continue to develop their DVR services. Presently, neither EchoStar nor DIRECTV offers real-time on-demand programming because they lack the capacity on their satellites to store programming and provide feeds to individual subscribers. DIRECTV states that it has experienced higher subscription rates for its DVR-enabled equipment and services following more attractive pricing for the service.[325] DIRECTV has been packaging TiVo's DVR platform into some of its receivers, but has announced that it will transition to its own DIRECTV Plus DVR, which is

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[319] Craig Moffett, Tom Wolzien, *View from the Back Office*, Bernstein Research, Jan. 7, 2005. DIRECTV sells a 30-inch LCD TV for $1,600 and 40-inch TV for $4,000, including delivery, installation, satellite dish, and the DISH 811 HD set-top box.

[320] EchoStar Communications Corp., *Dish Network Launches Local TV Stations in High Definition in Los Angeles via Satellite* (press release), Feb. 2, 2006; EchoStar Communications Corp., *Dish Network Launches Local TV Stations in High Definition in New York City via Satellite* (press release), Feb. 2, 2006.

[321] *See* The DIRECTV Group, Inc., HD Programming, at http://www.directv.com/ DTVAPP/imagine/ HDTV_programming.jsp.

[322] For example, DIRECTV subscribers have two ways to receive satellite-delivered Fox HD programming. First, customers who have an HD receiver and a Total Choice programming package can receive Fox HD programming from either WNYW (located in New York) or KTTV (located in Los Angeles), depending upon their geographic location. The select markets where eligible customers may receive the feeds are: New York; Los Angeles; Chicago; Philadelphia; Boston; Dallas; Washington D.C.; Minneapolis; Detroit; Atlanta; Houston; Tampa Bay and Orlando; Cleveland; Phoenix; Denver; St. Louis; Milwaukee; Kansas City; Salt Lake City; Birmingham; Memphis; Austin' and Greensboro, North Carolina. The second option, available only to unserved households, is to receive Fox HD programming as part of their Distant Network Service. Subscribers must have an HD capable TV set, a DIRECTV HD receiver, and a satellite dish capable of receiving signals from three separate DIRECTV satellites. *See* The DIRECTV Group, Inc., Local Channels in HD, at http://www.directv.com/DTVAPP/imagine HDTV_localchannels.jsp.

[323] Initially, DIRECTV plans to deliver local HD broadcast channels to the following television markets: New York, Los Angeles, Chicago, Philadelphia, Boston, San Francisco, Dallas, Washington, D.C., Atlanta, Detroit, Houston and Tampa. The DIRECTV Group, Inc., *DIRECTV Announces First 12 Markets to Receive Local Channels in High-Definition This Year* (press release), Jan. 6, 2005. DIRECTV states that it will carry each of the primary broadcast networks that offer an HD feed in the market and its customers who subscribe to a local channel package will receive both the standard-definition and HD signal. According to DIRECTV, HD local programming can be received via a new model of dish and customers will require new HD set-top boxes compatible with the new MPEG-4 compression standard.

[324] DIRECTV is providing high definition local channels in Boston, Massachusetts, Dallas and Houston, Texas, Tampa, Florida, Washington, D.C., Detroit, Michigan, New York, New York, and Los Angeles. *See e.g.*, *DIRECTV Lights Up HD Locals in Detroit*, Satellite Business News FAXUPDATE, Oct. 21, 2005; The DIRECTV Group, *DIRECTV Delivers High-Definition Local Channels to Boston, Dallas, Houston, Tampa, and Washington, D.C.* (press release), Dec. 9, 2005; The DIRECTV Group, *DIRECTV Transmits High-Definition Local Channels in New MPEG-4 Transmission Standard to Los Angeles* (press release), Dec. 28, 2005; The DIRECTV Group, *DIRECTV Brings High-Definition Local Channels to New York Today* (press release), Dec. 28, 2005. DIRECTV is carrying the HD local broadcast feed of the ABC, NBC, CBS, and Fox affiliates.

[325] DIRECTV Comments at 18.

manufactured by News Corp. subsidiary NDS.[326] In addition to providing DVR functionality, the new set-top box is designed to support DIRECTV's new interactive features, VOD functionality, and pay-per-view movies with VOD functionality.[327] DIRECTV charges $5.99 per month for its DVR service.[328] EchoStar introduced "DISH on demand" which is based on the model 625 set-top box that offers a hard drive that can record up to 100 hours of programming and reserves enough space for EchoStar to download movies and other content via satellite for the subscriber to view "on demand."[329] DIRECTV reported that it had two million subscribers with DVRs as of June 2005.[330] EchoStar has not reported its DVR subscribership since it reported that it reached one million DVR subscribers in September 2003.[331]

C. Broadband Service Providers

87. For purposes of this report, we define broadband service providers (BSPs) as newer firms that are building state-of-the-art, facilities-based networks to provide video, voice and data services over a single network.[332] Most BSPs are overbuilders.[333] As we have noted previously, BSPs continue to face considerable challenges as discussed below, and competition to cable from BSPs is limited to very few markets. As discussed in the Local Exchange Carrier section, below, a renewed interest from large LECs in entering the video distribution market may change this fact over the next few years.

88. ***OVS***. In 1996, Congress established the open video system (OVS) framework, one of four statutorily recognized options for the provision of video programming services by LECs.[334] BSPs

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[326] DIRECTV is expected to introduce its new DVR in late 2005. Ian Olgeirson, *DIRECTV Hit By DVR Delays, But Forecast Looks Bright*, The DBS Report (Kagan Research LLC), Aug. 29, 2005; Steve Donohue, *DIRECTV DVR Retail Debut Delayed*, MULTICHANNEL NEWS, Oct. 21, 2005.

[327] DIRECTV Comments at 18. The DIRECTV Plus receiver has a 160-hour recording capacity, but DIRECTV is reported to be making only 100 hours available for consumers to use for their own recording. The remaining 60 hours will be used by DIRECTV to deliver programming, which subscribers can purchase for an additional fee. For example, DIRECTV will deliver select NBC Universal programming from the NBC broadcast network and NBC Universal cable networks, such as USA, Sci Fi and Bravo, to its subscribers' DIRECTV Plus DVRs, which can be accessed on a commercial-free basis for $0.99 per episode. *See* Brook Barnes and Peter Grant, *CBS, NBC Deals Accelerate Shift in TV Landscape*, WALL STREET JOURNAL, Nov. 8, 2005; The DIRECTV Group. Inc., *NBC Universal and DIRECTV Announce First Ever On Demand Deal for Primetime Network Programming; Top NBC Universal Content On Demand for $0.99* (press release), Nov. 7, 2005.

[328] DIRECTV does not charge subscribers for DVR service if they are subscribers to its Total Choice Premier programming package, which costs $93.99 per month. Existing customers seeking to upgrade their service must purchase a DVR equipped set-top box and agree to a new programming contract.

[329] Craig Moffett, Tom Wolzien, *View from the Back Office*, Bernstein Research, Jan. 7, 2005.

[330] Ian Olgeirson, *DIRECTV Hit By DVR Delays, But Forecast Looks Bright*, The DBS Report (Kagan Research LLC), Aug. 29, 2005, at 1. As of March 31, 2005, DIRECTV was reported to have 1.68 million DVR subscribers. Craig Moffett, Amelia Wong, and Lauren M. Pastrich, *DIRECTV (DTV): A Much Brighter Outlook for SSCF*, Bernstein Research Call, May 3, 2005, at 3.

[331] *2004 Report*, 20 FCC Rcd at 2800 ¶ 68. Kagan forecasts that DIRECTV and EchoStar will reach approximately 5.3 million DVR customers by the end of 2005, or approximately one-fifth of total DBS subscribers. *See* Kagan Research, LLC, *DIRECTV Hit By DVR Delays, But Forecast Looks Bright*, The DBS Report, Aug. 29, 2005, at 1.

[332] The term BSP is not intended to imply anything with respect to Commission's policy or proceedings that might involve broadband services. Usually, the services of a BSP can be purchased separately as well as in a bundle. *See 2001 Report*, 17 FCC Rcd at 1296-97 ¶ 3. *See also 2002 Report*, 17 FCC Rcd at 26948-52 ¶¶ 102-11.

[333] *2004 Report*, 20 FCC Rcd at 2801 ¶ 70. An overbuilder is an MVPD that "overbuilds" a second cable network where one already exists.

[334] Most, if not all, OVS providers are also overbuilders. We treat them in a separate section to highlight the separate regulatory classification that Congress created. 47 U.S.C. §571(a)(3)-(4); *1996 Report*, 12 FCC Rcd at (continued....)

are the only significant holders of OVS certifications or local OVS franchises.[335] BSPA reports that new OVS activity has been limited, but that some of its members have converted cable franchises into OVS franchises, which has enabled some BSPs to eliminate build-out requirements.[336] BSPA maintains that build out requirements limit wireline video competition by increasing the costs of entry.[337] BSPA argues that most incumbent cable operators have had decades to build out to current service boundaries with limited or no competition, and did not have to rely on capital markets for funding as current entrants do.[338]

89. ***BSP Overbuilders***. RCN Corporation is the nation's largest overbuilder, supplying voice, video, and high-speed Internet access services to residential subscribers over its own network in the Boston, New York, Chicago, San Francisco, Los Angeles, Washington, D.C, Philadelphia, and Lehigh Valley, Pennsylvania, metropolitan markets.[339] As of June 2005, RCN was the 14th largest MVPD with 371,000 subscribers.[340] WideOpenWest (WOW) is the second largest overbuilder. WOW was the 16th largest MVPD and, as of June 2005, served 292,500 subscribers.[341] The third largest overbuilder is Knoxville, Tennessee-based Knology, which operates mainly in the Southeast. As of June 2005, Knology was the 23rd largest MVPD, and had 179,800 video subscribers.[342] Grande, which operates systems in several cities in Texas, reported that video connections increased from 78,000 to 85,440, and high-speed data increased from 47,000 to 63,241, between June 2004 and June 2005.[343]

90. Last year we reported that many overbuilders were continuing to experience financial difficulties. Since then, RCN emerged from Chapter 11 bankruptcy. RCN reports that it enjoys "a new management team, a new Board of Directors, and [an] improved balance sheet."[344] BSPA reports that

(Continued from previous page)
4395-98 ¶¶ 68-71. The OVS framework was designed to streamline the process of entering local MVPD markets and it subjects OVS certified providers to regulation under Title VI somewhat different than that applied to cable operators. Among other things, an open video system's carriage rates are entitled to a presumption that they are just and reasonable where one or more unaffiliated video programming providers occupy channel capacity on the system at least equal to that of the open video system operator and its affiliates. We are not aware of any OVS operator carrying programming offered by an unaffiliated program packager. Open video systems are subject to, among others, the Commission's rules governing must carry, retransmission consent, program access, sports exclusivity, network nonduplication, syndicated exclusivity, and public, educational and governmental (PEG) access channels. *Id.* When it authorized the OVS framework, Congress abolished the Commission's video dialtone (VDT) framework under which LECs previously had offered video services.

[335] For a complete list of OVS certifications, *see* Current Filings For Certification of Open Video Systems, at http://www.fcc.gov/mb/ovs/csovscer.html (visited Oct. 10, 2005).

[336] BSPA Comments at 6-7. OPASTCO reports that less than 8 percent of its members provide service under OVS certification. OPASTCO Reply Comments at 3.

[337] BSPA Comments at 19.

[338] *Id.*

[339] RCN Comments at 1-2.

[340] Kagan Research, LLC, *Top Cable System Operators as of 6/05*, Cable TV Investor, Aug. 25, 2005, at 11.

[341] *Id.*

[342] *Id.*

[343] *See* Grande Communications Holdings, Inc., *Grande Communications Holdings, Inc. Announces Results for the Second Quarter Ending June 30, 2005* (press release), Aug. 15, 2005.

[344] RCN Comments at 2 n.2.

BSPs are consolidating ownership of their system holdings, which may help BSPs gain economies of scale and become more financially stable.[345]

91. ***Nature of MVPD Competition.*** BSPA highlights a 2005 U.S. Government Accountability Office (GAO) study that examined overbuild video systems.[346] The report states that DBS penetration varies depending on the type of community (*i.e.*, urban, rural, or suburban) and the technical sophistication of the cable competitor and/or the presence of an overbuilder. BSPA maintains that DBS is not as direct a substitute for cable as are BSPs, and that the variation of DBS penetration across communities argues that the Commission should not accede to cable industry arguments that cable is no longer dominant in the MVPD market.[347] We note that the *2004 GAO Report* studied six market pairs for which one market of each pair was served by a BSP overbuilder, and the other was not. GAO found that communities with overbuild competition experienced lower rates (an average of 23 percent lower for basic cable) and higher-quality service. GAO also found that BSPs were facing difficulties competing, such as access to programming and Multiple Dwelling Units (MDUs), and franchise requirements imposed by localities.[348] BSPA calls upon the Commission to monitor and analyze DBS competition as GAO did in the *GAO 2005 Report*, and to reject the notion that markets are not competitive until such time as competitors achieve a market share of 25-30 percent.[349] Comcast strongly disputes the allegation that DBS competition is not meaningful, referring to the "dramatic effects" that DBS competition has had on the multichannel video marketplace.[350]

D. Broadcast Television Service

1. General Performance

92. Broadcast networks and local stations supply video programming directly over the air to consumers. Consumers who do not subscribe to an MVPD service rely solely on over-the-air transmission of local broadcast television signals. Other households receive broadcast television programming over the air on those television receivers that they have chosen not to connect to an MVPD service. In addition, many consumers receive broadcast signals via their cable, DBS, or other MVPD service.

93. As we reported last year, broadcast television stations' audience shares have continued to fall as cable and DBS penetration, the number of cable channels, and the number of nonbroadcast networks continue to grow. For the 2004-2005 television season, broadcast television stations accounted for a combined average 47 share of prime time viewing among all television households, compared to a 48 share in the previous season.[351] Broadcast stations achieved a 41 share of all-day (24-hour) viewing

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[345] BSPA Comments at 6.

[346] GAO, *Direct Broadcast Satellite Subscribership Has Grown Rapidly, but Varies Across Different Types of Markets*, GAO-05-257, Apr. 2005 (*GAO 2005 Report*). The *GAO 2005 Report* studies how DBS penetration varies across different types of markets (rural, suburban, and urban) and against different types of cable systems (not upgraded, partially upgraded, and fully upgraded). The report finds that DBS penetration is highest in rural areas and lowest in urban, and highest in areas served by a cable system that has not been upgraded and lowest in areas served by a cable system that has been fully upgraded.

[347] BSPA Comments at 7-12.

[348] GAO, *Telecommunications: Wire-Based Competition Benefited Consumers in Selected Markets*, GAO-04-241, Feb. 2004.

[349] BSPA Comments at 10.

[350] Comcast Reply Comments at 37-41. *See also* Time Warner Reply Comments at 1-4.

[351] Nielsen Media Research, *Broadcast Calendar (TV Season) Share of Audience Report, Prime Time and Total Day*, Sept., 2005. Nielsen reports audience shares that exceed 100 percent when totaled due to simultaneous multiple set viewing. We have normalized audience shares to equal 100 percent.

during the 2004-2005 season, down from a 44 share the previous season. In contrast, nonbroadcast channels' collective audience share continues to grow. In the 2004-2005 television season, nonbroadcast channels[352] accounted for a combined average 53 share of prime time viewing among all television households, up from the 52 share in the previous season.[353] Nonbroadcast channels accounted for a 59 share of all-day viewing, up from a 56 share in the previous season.[354]

94. Since the 2004 Report, the number of commercial and noncommercial television stations has remained unchanged at 1,747 from June 30, 2004 to June 30, 2005.[355] Total television broadcast advertising revenues grew 11 percent from $42.5 billion in 2003, to $47.2 billion in 2004.[356] Advertising revenue for the seven most widely distributed broadcast networks (ABC, CBS, Fox, NBC, PAX, UPN, and WB) was estimated at $24.9 billion in 2004, a 9.5 percent increase over the $22.7 billion earned in 2003.[357] Cable programming networks fared somewhat better, experiencing a 17.7 percent increase in advertising revenue in 2004; they earned $16.4 billion in advertising revenue compared to $14 billion in 2002.[358]

2. Digital Television

95. DTV allows broadcasters to use a single 6 MHz channel to transmit a high-definition television (HDTV) signal, several standard-definition television (SDTV) signals (multicasting), or ancillary services in addition to video programming.[359] As of October 2005, more than 1,537 stations nationwide are on the air with DTV operations, including all 119 stations affiliated with the top-four network affiliates in the top thirty television markets.[360]

a. Over-the-Air Households

96. On March 1, 2005, the Media Bureau released a staff report concerning over-the-air broadcast viewers (*OTA Report*).[361] The report presented information submitted in response to a *Public Notice* (*OTA Public Notice*) that posed several questions about U.S. TV households that receive broadcast

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[352] Includes basic (BST and CPST) networks, as well as premium and PPV networks, distributed by MVPDs.

[353] We note that individual broadcast networks generally attract higher audience shares than individual nonbroadcast networks. For example, during the 2004-2005 television season, six of the seven broadcast networks attained average prime time audience shares ratings greater than the average prime time audience rating of the highest rated nonbroadcast networks. Nielsen Media Research.

[354] Nielsen Media Research, *Broadcast Calendar (TV Season) Share of Audience Report, Prime Time and Total Day*, Sept., 2005.

[355] *Compare* Federal Communications Commission, *Broadcast Station Totals as of June 30, 2004* (FCC News Release), Aug. 20, 2004, *with* Federal Communications Commission, *Broadcast Station Totals as of June 30, 2005* (FCC News Release), Aug. 29, 2005.

[356] Television Bureau of Advertising, *2004 TV Ad Revenue Figures*, at http://www.tvb.org/rcentral/adrevenuetrack // revenue/2004/ad_figures (visited Sept. 21, 2005).

[357] *Id.*

[358] Robert J. Coen, *U.S. Advertising Volume 2000-2005*, Universal McCann, Sept. 22, 2005.

[359] *Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, 17 FCC Rcd 15978, 15995-96 ¶¶ 39-40 (2002).

[360] *Summary of DTV Applications Filed and DTV Build Out Status*, at http://www.fcc.gov/mb/video/files/ dtvonairsum.html (visited Oct. 2005).

[361] *Media Bureau Staff Report Concerning Over-the-Air Broadcast Television Viewers*, MB Docket 04-210, Feb. 28, 2005. (*OTA Report*).

television only in analog format and over the air via an indoor or outdoor antenna.[362] The *OTA Public Notice* asked how many analog over-the-air households there are, where they are located, what their demographic characteristics are, and why they do not subscribe to an MVPD service. The *OTA Public Notice* also requested comment on how best to provide for analog over-the-air households when analog broadcast television service is terminated at the end of the DTV transition. The *OTA Report* notes that the Commission's estimate of over-the-air only households is derived from figures reported in the *2004 Report*. At the time the *OTA Report* was released, the Commission estimated that about 14.86 percent of television households rely on over-the-air television broadcasts to receive video programming.[363] In this report, the *2005 Report*, we find that there are 15.36 million U.S. TV households that do not subscribe to an MVPD service and thus rely on over-the-air broadcast television for their video programming, representing 14 percent of all U.S. TV households.[364] In addition, we note that many households that subscribe to an MVPD also rely on over-the-air signals to receive broadcast programming on some of their television sets.[365] The *OTA Report* also notes that commenters in that proceeding estimate that the percentage of TV households that receive video programming over-the-air only ranges from 13 percent to 19 percent.[366]

97. Nielsen estimates that, as of July 2005, 15.43 million households, or 14 percent of the 109.6 total U.S. television households, rely exclusively on over-the-air television for video programming.[367] Commenters in this proceeding provide estimates of the number of television households relying solely on over-the-air television reception within the range of 12 percent to 18 percent of U.S. television households. NAB, for example, estimates that there are as many as 20.5 million households containing 45 million television sets that do not subscribe to an MVPD and that there are an additional 18.3 million MVPD households with 28 million television sets that are not connected to MVPD service.[368] CEA estimates that approximately 12 percent of all television households receive their

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[362] *Media Bureau Seeks Comment on Over-the-Air Broadcast Television Viewers*, Public Notice, 19 FCC Rcd 9468 (2004).

[363] *See Media Bureau Staff Report Concerning Over-the-Air Broadcast Television Viewers*, MB Docket 04-210, Feb. 28, 2005 (*OTA Report*). *See also 2004 Report*, 20 FCC Rcd at 2869-70. Our estimates of households that do not subscribe to an MVPD service may include a number of households that are using MVPD service without paying for it, and thus overstate the number of OTA households. On the other hand, estimates of MVPD households may be overstated considering that as many as three percent of television households may subscribe to both cable and DBS services. The net effect of these inaccuracies is unknown. In addition, these figures are based on a nationwide average. It appears that the percent of OTA households varies substantially from one market to another. For example, in ten DMAs, over 80 percent of TV households subscribe to cable service. When DBS subscribers to local-into-local service are added, the total MVPD subscribership in most of these markets exceeds 85 percent. In contrast, in 13 DMAs, fewer than 50 percent subscribe to cable. *Id.* at 2872.

[364] *See* Appendix B, Table B-1. According to Table B-1, there are 109,590,170 TV Households, of which 94,226,357 subscribe to an MVPD. This means that at least 15.36 million TV households do not subscribe to an MVPD. *Id.* In the past it has been estimated that approximately 3 percent of all cable households may subscribe to more than one MVPD (3 percent of current cable subscribership is 1.9 million households), but with DBS carriage of local-into-local service, this figure is declining. *See id.* at note (i).

[365] *OTA Report*.

[366] *Id.*

[367] Nielsen Media Research, *U.S. Television Household Estimates*, Sept. 2004, at 1. Nielsen's estimate of 15.43 million households is similar to our own estimate of 15.36 million households.

[368] NAB Comments at 2; NAB Reply Comments at 8-10. NAB argues that those households relying solely on over-the-air broadcasting are predominantly lower income and include relatively greater numbers of racial and ethnic minorities. NAB Comments at 3.