television service with more than 7.6 million customers as of June 1999, and a 72% share of the domestic DBS market.[259] EchoStar had almost 2.6 million subscribers and 28% DBS market share as of June 1999.[260] Analysts estimate that DBS will have nearly 21 million subscribers by 2007.[261] There is some overlap, however, between cable and DBS subscribership. Of the 60% of DBS subscribers with access to cable, 24% subscribe to cable in addition to DBS, primarily to receive local broadcast signals.[262]

71. ***DBS versus Cable.*** Differences between cable and DBS continue to diminish, and some observers assert that consumers perceive DBS and cable to be substitutable services.[263] Both DBS and cable operators offer video programming packages to subscribers for a monthly fee, and offer premium and pay-per-view services. However, DBS subscribers continue to report higher levels of customer satisfaction over cable. For example, SBCA cites a DBS study that found "consumers who select DTH service find it superior to any other video service ... and for DBS subscribers, 90 percent rated the overall quality of their satellite system as excellent or good."[264] J.D. Power and Associates rated EchoStar's DISH Network number one in customer satisfaction in the pay television industry in their 1999 Cable/Satellite TV Customer Satisfaction Study.[265]

72. According to surveys of DBS subscribers, the primary advantages of DBS are superior channel capacity (including the capacity for "Near Video On Demand" movies on pay-per-view), digital quality picture, CD-quality sound, and specialized programming such as exclusive sports packages.[266] Some of these advantages, however, may diminish as cable operators offer digital services that allow them to match DBS operators in number of channels and signal quality.

73. Differences between cable and DBS prices have declined as the cost of DBS service and equipment has decreased. According to a study (the "Yankee Group 1999 DBS Study") that compared cable and DBS programming prices, DBS's average programming price was $29.50 per month while its sample of large MSO programming prices averaged $30.56 per month.[267] These figures are consistent with the Commission's last *Report on Cable Industry Prices*, which found that the average monthly rate charged by cable operators facing effective competition was $28.71 as of July 1, 1998. For those cable operators not

[259] This includes approximately two million PrimeStar by DirecTV subscribers.

[260] Carmel Group, *Cable versus Satellite: Where's the Beef?*, DBS Investor, Sept. 1999, at 4.

[261] *21 million by 2007?,* SkyREPORT, July 1999, at 11.

[262] SBCA Comments at Appendix B ("1999 DBS Study 6").

[263] AT&T Comments at 2. NCTA Comments at 16.

[264] SBCA Comments at 12.

[265] J.D. Power and Associates, *EchoStar DISH Network Rated Number One,* (press release) September 1999.

[266] SBCA Comments at Appendix E.

[267] Carmel Group, *Cable versus Satellite: Where's the Beef?*, DBS Investor, Sept. 1999, at 12.

facing effective competition, the average monthly rate was $30.53.[268] DBS subscribers, however, generally pay additional "up-front costs" for equipment and installation. When examining "price and value differences" between DBS and cable services, the study also found that during the first year of subscribership, cable has "less than a $400 overall payment required of a consumer, compared to a near $600 investment by a satellite consumer.[269] These figures include an average hardware cost of $166 for satellite customers, an average installation cost of $66 for satellite equipment, and an average installation cost of $26.53 for cable service. However, discounts offered by DBS operators on equipment and installation can minimize the difference between cable and DBS prices.

74. ***Availability of Local Broadcast Stations***. Consumers continue to report that the primary disadvantage of DBS is the lack of network television signals.[270] On November 29, 1999, a revision of the Satellite Home Viewer Act ("SHVA") was enacted.[271] Under the Satellite Home Viewer Improvement Act of 1999 ("SHVIA"), satellite providers are allowed to retransmit network and network affiliate signals into local markets. The original SHVA legislation, passed in 1988, granted only a limited exception to the exclusive programming copyrights enjoyed by television networks and their affiliates. This exception recognized that some households are unable to receive network station signals over the air and allowed direct-to-home ("DTH") satellite video providers to retransmit network signals, but only "to persons who reside in unserved households" (also known as "white areas").[272] In 1998, several federal court decisions that resolved litigation between broadcasters and DBS program distributors over violations of SHVA resulted in the termination of network signals to approximately 1.5 million satellite customers.[273] Subsequently, the House and the Senate passed separate bills authorizing DTH providers to retransmit network and network affiliate signals into local markets.[274] Immediately after the law was signed, EchoStar

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[268] *See Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992, Statistical Report on Average Rates for Basic Service, Cable Programming Services, and* Equipment, MM Docket No. 92-266, Report on Cable Industry Prices ("*1998 Price Report*"), 14 FCC Rcd 8331, 8333 ¶ 4 (1999).

[269] Carmel Group, *Cable versus Satellite: Where's the Beef?*, DBS Investor, Sept. 1999, at 14.

[270] SBCA Comments at 11.

[271] Pub. L. No. 106-113, § 1000(9), 113 Stat. 1501 (enacting S. 1948, including the Satellite Home Viewer Improvement Act of 1999 ("SHVIA"), Title I of the Intellectual Property and Communications Omnibus Reform Act of 1999 ("IPACORA"), relating to copyright licensing and carriage of broadcast signals by satellite carriers, codified in scattered sections of 17 and 47 U.S.C.).

[272] 17 U.S.C. § 119(d)(10). The term "unserved household" is defined by SHVA as a household that:

> (A) cannot receive, through the use of a conventional outdoor rooftop receiving antenna, an over-the-air signal of grade B intensity (as defined by the Federal Communications Commission) of a primary network station affiliated with that network, and
>
> (B) has not, within 90 days before the date on which that household subscribes, either initially or on renewal, to receive secondary transmissions by a satellite carrier of a network station affiliated with that network, subscribed to a cable system that provides the signal of a primary network station affiliated with that network.

[273] *See* 1998 WL 310683 (S.D.Fla.), 1998 WL 544286 (M.D.N.C.) and 1998 WL 544297 (M.D.N.C.). *See also 1998 Report*, 13 FCC Rcd at 24327-29 ¶¶ 68-70.

[274] H.R. 1554 and S. 247.

began transmitting local network packages, selling for $4.99 a month, to subscribers in 13 markets: Denver, New York, Los Angeles, Chicago, San Francisco, Boston, Washington, D.C., Dallas/Ft. Worth, Atlanta, Miami, Phoenix, Pittsburgh and Salt Lake City.[275] The local channel package consists of the local affiliates of ABC, CBS, NBC, and FOX. DirecTV began immediate service to two markets: New York and Los Angeles.[276] In addition to local network channels, DirecTV will include a national PBS in each local package, which sells for $5.99 a month. During the six month period beginning on the date of the enactment of SHVIA, DBS providers may retransmit local signals without consent.[277] Thereafter, DBS operators will be subject to retransmission consent rules similar to those established for cable operators.[278] Prior to the passage of SHVIA, DirecTV and Fox Entertainment Group entered into a retransmission consent agreement to allow DirecTV to retransmit the signals of 22 major market FOX television stations.[279] Subsequently, DirecTV has reached retransmission consent agreements with NBC for 13 major market stations, and ABC for its 10 network owned and operated stations.[280] SHVIA further imposes several rulemaking and reporting requirements on the Commission.[281] We intend to implement these provisions expeditiously to ensure that consumers receive the intended benefits of the Act.

75. ***Changes in Ownership***. Over the past year, changes in ownership and reassignments of orbital slots have altered the DBS landscape. On April 1, 1999, the Commission consented to the merger of United States Satellite Broadcasting Co., Inc. ("USSB") and DirecTV, and authorized the transfer of USSB's direct broadcast satellite licenses to DirecTV.[282] On April 28, 1999, Hughes, the parent company

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[275] *DISH Network Launches Local Channels to 33 Percent of U.S. Households* (press release), November 24, 1999. See http://www.dishnetwork.com.

[276] *DirecTV Applauds Signing of Satellite TV Bill Into Law by President Clinton* (press release), November 29, 1999. See http://www.directv.com.

[277] *See* 47 U.S.C. § 325(b)(2).

[278] *See* 47 U.S.C. § 325(b)(3)(C)(I) directing the Commission to establish election time periods for satellite carrier retransmission consent consistent with those established pursant to the 1992 Cable Act. *See also Implementation of the Satellite Home Viewer Improvement Act of 1999*, CS Docket No. 99-363, Notice of Proposed Rulemaking, FCC 99-406 (rel. Dec. 22, 1999).

[279] *Fox and DirecTV Reach Agreement for Retransmission of Fox-owned Stations* (press release) September 29, 1999. See http://www.directv.com.

[280] *DirecTV Reaches Agreement with NBC for Retransmission of Network-Owned Stations* (press release), December 6, 1999. *ABC and DirecTV Reach Agreement for Retransmission of ABC Owned Television Stations* (press release), December 6, 1999. See also http://www.directv.com.

[281] *See* SHVIA at §§1008, 1009, 5003, 5008, 2002(a), and 2002(c).

[282] United States Satellite Broadcasting Co., Inc. Transferor and DirecTV Enterprises, Inc. Transferee; *For Consent to Transfer of Control of the United States Satellite Broadcasting Co., Inc. and DirecTV Enterprises, Inc. for Consent to Transfer Control of the USSB II Authorization to Operate a Direct Broadcast Satellite System Using Five Channels at the 101° W.L. Orbital Location; Authorization to Construct, Launch, and Operate a Direct Broadcast Satellite System Using Three Channels at 110° W.L. Orbital Location; and the Related Earth Registration*, (Call Sign E930437); Order and Authorization, 14 FCC Rcd 4585 (1999).

of DirecTV, completed its acquisition of PrimeStar's medium powered satellite business.[283] Subsequent to that grant, Tempo Satellite, Inc, a former DBS licensee that did not actually commence service, was also allowed to transfer its license to DirecTV.[284] These changes give DirecTV increased channel capacity, facilitate "local-into-local" broadcast signal carriage and, for the first time, allow for DBS service to Hawaii, which has not previously been served by DBS.[285]

76. On May 19, 1999, the Commission granted the application of MCI Telecommunications Corporation and EchoStar for transfer of MCI's license to construct, launch and operate a DBS system at the 110° West Longitude location.[286] On June 16, 1999, EchoStar was granted authority to temporarily relocate one of its satellites to a new orbital slot in order to improve DBS service to Alaska and to initiate service to Hawaii. On May 17, 1999, the Commission granted Dominion Video Satellite, Inc. authority to commence operation of a DBS service using an EchoStar satellite currently in orbit.[287] This authorization permits Dominion to commence DBS service by leasing transponder capacity on an EchoStar satellite. Dominion is now offering service.[288]

77. ***Competitive Barriers***. Commenters identify several barriers to the continuing success of DBS as an MVPD competitor. Commenters state that access to vertically integrated programming remains a "critical issue" for DBS.[289] According to commenters, when vertically integrated cable operators migrate satellite delivered programming to a terrestrial delivery mode, they evade program access rules, thereby

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[283] *Tempo Satellite, Inc., Assignor and Directv Enterprises, Inc., Assignee, Application for Consent to Assign Authorization to Construct, Launch and Operate a Direct Broadcast Satellite System Using 11 Frequencies at the 119 degrees W.L. Orbital Location, Tci Satellite Entertainment, Inc., Transferor And Primestar, Inc., Transferee, Application for Transfer of Control of Tempo Satellite, Inc. Echostar Satellite Corporation And Directsat Corporation, Applications for Special Temporary Authority to Operate a Direct Broadcast Satellite System*, Order and Authorization, 14 FCC Rcd. 7946 ("Primestar Order") (released May 28, 1999).

[284] *Primestar Order*, 14 FCC Rcd at 7951 ¶¶ 9-29.

[285] DirecTV Comments at 9.

[286] *Application of MCI Telecommunications Corporation, and EchoStar 110° Corporation for Consent to Assignment of Authorization to Construct, Launch, and Operate a Direct Broadcast Satellite System Using 28 Frequency Channels at the 110° W.L. Orbital Location*, File No. SAT-ASG-19981202-0093, Call Sign S2232, Order and Authorization, FCC 99-109 (released May 19, 1999).

[287] *Dominion Video Satellite, Inc. Application for Minor Modification of Authority to Construct and Launch and to Continue Construction and Launch of Planned Satellite at 61.5° W.L.* File No. 12-SAT-ML-97, IBFS File No. SAT-MOD-19961108-00132; *Application for Additional Time to Construct and Launch Direct Broadcast Satellites*, File No. 13-SAT-MP/ML-97, IBFS File No. SAT-MOD-19961108-00133; *Application for Launch Authority*, File No. 108-SAT-LA-97, IBFS File No. SAT- L/A-19970814-00074, Order and Authorization, 14 FCC Rcd 8182 (1999).

[288] Dominion was originally issued its DBS construction permit in 1982. It was expected that, within six years, Dominion would both build and launch its own satellite and commence service. Dominion was not, however, assigned its final DBS channels until 1995. *See Application of Dominion Video Satellite, Inc. for Assignment of Direct Broadcast Satellite Orbital Positions and Channels*, Memorandum Opinion and Order, 10 FCC Rcd 10480 (1995).

[289] DirecTV Comments at 10.

preventing DBS operators from distributing valuable programming such as regional sports programming.[290] Similarly, EchoStar asserts that large cable operators, because of their size and market share, have "overwhelming buying power in the programming market" that restricts access to independent programming as well as to vertically integrated programming.[291]

78. According to SBCA, the inability to fully serve urban areas is another barrier to competition faced by DBS operators.[292] In addition, it maintains that DBS is a predominantly rural service and faces obstacles to competitive access to the suburban and urban markets.[293] SBCA reports that approximately 40% of DBS subscribers do not have access to cable.[294] DirecTV believes that for DBS to effectively serve urban markets, the Commission's rules on the use of over-the-air-reception devices ("OTARD") should be extended.[295] OTARD applies to viewers who place video antennas on property that they own and that is within their exclusive use or control, including condominium owners and cooperative owners who have an area where they have exclusive use in which to install the antenna. The rule applies to townhomes and manufactured homes, as well as to single family homes. On November 20, 1998, the Commission amended the rule so that it will also apply to rental property where the renter has exclusive use, such as a balcony or patio.[296] Commenters generally agree that the OTARD rules allow more viewers, particularly viewers in urban areas, access to DBS.[297] However, other conditions may continue to limit DBS access for some viewers. For instance, DBS antennas must face south to receive an acceptable quality signal from the satellite, which transmits the video programming service. According to DirecTV, renters and property owners who do not have south facing exclusive use areas cannot opt for DBS service, and

[290] DirecTV Comments at 10-11; SBCA Comments at 25; EchoStar Comments at 2-6.

[291] EchoStar Comments at 6.

[292] SBCA Comments at 10.

[293] *Id.* at 10-11.

[294] *Id.* at Appendix B ("1999 DBS Study 6").

[295] 47 C.F.R. § 1.4000. As directed by Congress in Section 207 of the Telecommunications Act of 1996, the Commission adopted the OTARD Rule concerning governmental and nongovernmental restrictions on viewers' ability to receive video programming signals from DBS, MMDS, and television broadcast stations. The rule prohibits restrictions that impair the installation, maintenance or use of antennas used to receive video programming. The rule prohibits most restrictions that: (1) unreasonably delay or prevent installation, maintenance or use; (2) unreasonably increase the cost of installation, maintenance or use; or (3) preclude reception of an acceptable quality signal.

[296] *Restrictions on Over-the-Air Receptions Devices: Television Broadcast, Multichannel Multipoint Distribution and Direct Broadcast Satellite Services*, CS Docket No. 96-83, Second Report and Order, 13 FCC Rcd 23874 (1998); *Restrictions on Over-the-Air Receptions Devices: Television Broadcast, Multichannel Multipoint Distribution and Direct Broadcast Satellite Services*, CS Docket No. 96-83, Order on Reconsideration, FCC 99-360 (rel. Nov. 24, 1999).

[297] DirecTV Comments at 10-11, NRTC Comments at 17-18, SBCA Comments at 24-25.

therefore must rely on cable operators, who have previously obtained exclusive, long term, MDU contracts, as their MVPD provider.[298]

79. Signal interference is also cited as a potential barrier to competition. Commenters assert that new services that propose to operate on a shared basis in the frequency band allocated to DBS service would cause "unacceptable interference."[299] Finally, because DBS service relies on a telephone return path and can provide only limited interactivity, commenters assert that DBS is at a competitive disadvantage to cable with its broadband conduit to and from the home.[300]

80. On the other hand, some competitive barriers appear to be diminishing, as DBS equipment costs fall and broadcast signals become available in many markets. Indeed, some assert that the advertising for DBS services indicates that DBS is now targeting a broader range of consumers.[301]

81. ***Data and Interactive Services.*** As with cable operators, satellite providers are developing ways to bring advanced services to their customers. Hughes Network Systems, who owns DirecTV, offers a satellite-delivered high-speed Internet access service ("DirecPC"), with a telephone return path.[302] DirecDUO, a dual functioning DBS antenna, enables consumers to receive both video programming and DirectPC services.[303] America Online and DirecTV have partnered to develop a set-top box that will provide interactive and "web surfing" Internet services. DirecTV has also formed partnerships with the TiVo Company to develop a VCR-like set-top box with personalized TV functions and with Wink Communications to provide interactive multimedia services.[304] DirecTV recently created two High

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[298] DirecTV Comments at 7. *See also SBC Signs Strategic Marketing Agreement With DirecTV to Offer Television Entertainment Programming to Its 18 Million Residential Customers* (press release), July 16, 1999 (announcing that DirecTV and a local exchange carrier, SBC Communications, have extended their marketing alliance to add DirecTV to the package of communications services that SBC markets to owners of MDUs and single family homes).

[299] Broadwave USA, Diversified Communications, and the Northpoint Company have proposed to operate terrestrial point-to-multipoint microwave service in the DBS uplink band. Skybridge and Virtual Geosatellite, propose using the DBS downlink band for new fixed satellite services. *See* DirecTV Comments at 4 SBCA Comments at 23. *See also Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range, and Amendment of The Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 Ghz Band By Direct Broadcast Satellite Licensees And Their Affiliates,* ET Docket No. 98-206, Notice of Proposed Rulemaking, 14 FCC Rcd 1131, (1998).

[300] EchoStar Comments at 7-9. DBS was conceived as a one-way service (transmissions from a space station for direct reception by an individual or a community) modeled on terrestrial television broadcasting. *See* 47 C.F.R. § 100.3.

[301] *See* Comcast *ex parte* letter, December 21, 1999 (attaching a full-page DirecTV advertisement from USA Today featuring Drew Carey, star of a television program about an "average guy").

[302] DirecPC uses a slightly larger dish antenna to view a FSS satellite in addition to the DBS satellite. *See* Hughes Network Systems, http://www.direcpc.com.

[303] *DirecPC: Out of the Closet*, SkyREPORT, July 1997, at 4.

[304] Carmel Group, *Interactivity by Satellite and Cable: The Future of TV?*, DBS Investor, Sept. 1999, at 16.

Definition Television (HDTV) offerings – a nationally available HBO HDTV channel and a pay-per-view HDTV channel featuring movies and special events.[305] EchoStar has partnered with Microsoft backed WebTV to provide Internet access through television sets. EchoStar and OpenTV, Inc. -- a company that produces interactive television technology -- will jointly offer e-mail, e-commerce and on-line banking services to its subscribers early next year.[306] Nevertheless, EchoStar contends that the Commission should "demand from merger applicants" a commitment to provide access to their broadband networks to MVPDs, including DBS, on reasonable terms to be negotiated by the parties or prescribed by the Commission upon a failure to agree.[307] Finally, both Motorola and Thompson have announced that they each will produce equipment, including DBS systems with Internet access capability.[308]

82. ***DBS Public Interest Obligation.*** On November 19, 1998, the Commission adopted rules implementing Section 25 of the 1992 Cable Act, which imposed certain public interest obligations on DBS providers.[309] The statute requires DBS service providers to set aside a percentage of channel capacity for non-commercial programming of an educational or informational nature. DirecTV began providing application packets to potential non-commercial and educational programmers in June 1999.[310] The Commission anticipates that a variety of new programming could soon become available on DBS systems, including children's programming, distance learning programs, university research projects shared nationwide, and health applications developed for rural America.[311] DBS licensees must also comply with the political broadcasting rules of Section 312(a)(7) of the Communications Act which grants candidates for federal office reasonable access to broadcasting stations, and Section 315 of the Act, which requires that licensees provide equal opportunities for those candidates to use broadcast stations at the lowest unit charge.

83. The effective date for implementation of the DBS public interest obligations was December 15, 1999.[312] DirecTV began offering such programming on that date. On December 10, 1999,

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[305] DirecTV Comments at 18. *See also DirecTV Launches Second HDTV Channel Beginning Nov. 1* (press release), Oct. 28, 1999.

[306] Monica Hogan, *EchoStar Plots Interactive Future After OpenTV Deal*, Multichannel News, Oct. 19, 1998, at 49 and 52.

[307] EchoStar Comments at 8-9.

[308] DirecTV, Inc., *DirecTV and Thomson Multimedia To Form Strategic Partnership In Digital Television and Services* (press release), Aug. 4, 1998. For the Motorola announcement, *see* Dean Takahashi, *Motorola to Unveil Set-Top Box That Offers Many Digital Tools*, The Wall Street Journal, Sept. 14, 1998, at B8.

[309] *Implementation of Section 25 of the Cable Television Consumer Protection and Competition Act of 1992, Direct Broadcast Satellite Public Interest Obligations*, MM Docket No. 93-25, Report and Order, ("*DBS Public Interest Order*"), 13 FCC Rcd 23254 (1998).

[310] DirecTV Comments at 16.

[311] *See DBS Public Interest Order*, 13 FCC Rcd at 23256 ¶ 3. *See also Statement of Chairman William E. Kennard*, 13 FCC Rcd at 23312-3.

[312] *DBS Public Interest Order*, 13 FCC Rcd at 23309-10 ¶136; *see also* 47 C.F.R. § 100.5(c)(7).

Echostar filed a motion for a six-week extension to come into compliance. That motion was denied and Echostar was ordered to come into compliance by January 7, 2000, or face fines.[313]

C. Home Satellite Dishes

84. In contrast to the growth of DBS subscribers, the HSD industry, also known as C-Band, is experiencing a steady decline of customers. Between June 1998 and June 1999, HSD subscribership fell 12%, from 2,028,225 to 1,783,411, as many customers move to DBS service with its smaller antennas.[314] For instance, EchoStar announced a marketing agreement with TV Guide C-band unit Superstar/Netlink Group to convert its 1.4 million current and inactive large dish HSD subscribers to EchoStar's DBS service which uses 18 inch "dish" antennas.[315] Despite the steady decline, SBCA expects "C-Band service to continue as a viable business for the foreseeable future [as a] niche distribution medium" serving rural subscribers unserved by cable.[316] SBCA also notes that many existing HSD transponder leases extend into the middle of the next decade.[317]

D. Multichannel Multipoint Distribution Service

85. MMDS systems, often referred to as "wireless cable," transmit video programming and other services to subscribers through 2 GHz microwave frequencies, using Multipoint Distribution Service ("MDS") and leased excess channel capacity on Instructional Television Fixed Service ("ITFS") channels.[318] An MMDS system must have a line-of-sight ("LOS") path between the transmitter or signal booster and the receiving antenna. When using analog signals, because of capacity limitations for the frequencies, MMDS operators have a maximum of 33 microwave channels available in each market, including 13 MDS channels and 20 ITFS channels. Digital technology significantly increases this channel capacity, improves picture and audio quality, and makes two-way services, such as high-speed Internet access and telephony, possible.

86. The MMDS industry currently provides competition to the cable industry only in limited areas. For example, BellSouth provides competitive digital MMDS video services in areas in the southeast and GTE provides competitive digital MMDS services in Honolulu. Sprint Corporation and MCI WorldCom, Inc. have acquired most of the larger MMDS operators over the past year, with the intent of using the acquired frequencies to provide two-way communication services. Since the 33-channel analog

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[313] *See Petition for Waiver of Direct Broadcast Satellite Public Interest Obligation Implementation Date, EchoStar Satellite Corporation*, File No. SAT-WAV-19991210-00116, Memorandum Opinion and Order, FCC 99-394 (rel. Dec. 17, 1999).

[314] Banc of America Securities, *Payload Monthly*, September 1999.

[315] CableFAX Daily, November 3, 1999, at1.

[316] SBCA Comments at 4.

[317] *Id* at 5.

[318] *Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act - Competitive Bidding*, MM Docket. No. 94-131 and PP Docket No. 93-253, Report and Order, 10 FCC Rcd at 9589, 9593 ¶ 7 (1995); 1996 Report, 12 FCC Rcd at 4386 ¶ 51 n.152.

capacity of MMDS systems is generally not competitive with that of most cable systems, MMDS subscribership has declined. One analyst believes that analog MMDS video will eventually serve only rural areas, but that digital video subscribership will climb moderately and high-speed data access through MMDS will grow rapidly.[319]

87. ***MMDS Households and Subscribership.*** In 1999, the number of homes with a serviceable line of sight to an MMDS operator's transmission facilities was 62,500,000, and the number of homes actually capable of receiving an MMDS operator's signal ("homes seen") was 35,750,000.[320] The total number of MMDS video subscribers fell from 1.0 million to 821,000 between June 1998 and June 1999, a decrease of 17.9%. Of the 821,000 subscribers in 1999, 721,000 were analog MMDS subscribers and the other 100,000 were subscribers to digital MMDS services.[321]

88. ***Video Joint Ventures.*** Two MMDS operators, Nucentrix Spectrum Resources, Inc. ("Nucentrix"), formerly Heartland Wireless Communications, Inc., and Wireless One, Inc., have announced joint ventures with DBS operator DirecTV. According to these agreements, the MMDS operator will combine its MMDS frequencies with DirecTV's satellite video programming so that consumers can receive local broadcast and other channels with MMDS frequencies in addition to DirecTV's full video service through a DBS dish. The local MMDS operator handles installation of and subscription to both services. This service is offered to both single-family homes and MDUs.[322] Many MMDS operators view MDUs as underserved by cable operators and as a possible source for rapid revenue growth.[323] Nucentrix reports that it has begun offering its joint MMDS-DirecTV service in 41 markets.[324]

89. ***Interexchange Carrier ("IXC") Investment.*** Over the past year, MCI WorldCom and Sprint have purchased a significant number of MMDS operators.[325] Sprint has acquired WBS America, LLC, People's Choice TV Corporation, American Telecasting, Inc., Videotron Hollard B.V., Wireless

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[319] Paul Kagan Assocs., *Wireless/Private Cable Investor*, July 13, 1999, at 1-2.

[320] Paul Kagan Assocs., Inc., *Wireless Cable Sub Count and Revenue Projections, 1998-2009*, Wireless/Private Cable Investor, July 13, 1999, at 4-5. The number of homes with a "servicable line of sight" counts all homes which an MMDS operator is licensed to serve within a particular license area, regardless of technical limitations such as signal strength or blockage by terrain. The number of "homes seen," on the other hand, is the number of homes that MMDS operators have the technical ability to serve. For more discussion, *see 1997 Report*, 13 FCC Rcd at 1081 ¶ 74, fn. 272.

[321] Paul Kagan Assocs., Inc., *Wireless Cable Sub Count and Revenue Projections, 1998-2009*, Wireless/Private Cable Investor, July 13, 1999, at 4-5..

[322] *See* PRNewswire, *Wireless One, Inc. Receives New Financing Commitment; $36 Million Agreement Would Provide Funds Needed To Exit Bankruptcy*, May 18, 1999 and http://www.heartland-wireless.com/investors/strategic.html. *See also Heartland Wireless and Wireless One Dropping Video Focus*, Comm. Daily, Mar. 22, 1999, at 1.

[323] Karen Brown, *Wireless Operators Zero In On MDU Marketplace*, Cable World, Sept. 6, 1999, at 32.

[324] http://www.heartland-wireless.com/investors/strategic.html.

[325] In addition, MCI WorldCom and Sprint have agreed to merge, but the merger is still under regulatory review. MCI WorldCom, Inc., *MCI WorldCom and Sprint Create Pre-Eminent Global Communications Company For 21st Century* (press release), Oct. 5, 1999.

Cable of Florida, and Transworld Telecommunications, Inc. These properties give Sprint the potential of offering two-way communication services to almost 30 million households nationwide.[326] MCI WorldCom has purchased CAI Wireless,[327] which is also majority owner of CS Wireless. MCI WorldCom has agreed to acquire Wireless One,[328] and Southern Wireless Video, Inc.[329] With these acquisitions, MCI WorldCom has the ability to offer communication services to over 50 million homes.[330] Sprint and MCI WorldCom intend to use this spectrum as a "last mile" connection to homes for the provision of high-speed Internet access. It remains unclear whether they will continue to provide analog video service, upgrade to digital video service, or discontinue multichannel video service.[331]

90. ***Internet and High-Speed Data Services.*** Last year, the Commission adopted new rules that provide flexibility to MMDS and ITFS licensees to employ digital technology in delivering two-way communications services, including high-speed Internet access, video conferencing, and distance learning.[332] Currently, a few MMDS operators offer Internet service. One such system in Phoenix, operating under developmental authority, has over 10,000 customers for its Internet service and is competing with the local cable operator and U S West's advanced telecommunications offering.[333]

91. ***Barriers to Competition.*** WCA has several proposed recommendations for Commission action to remove barriers to competition for MMDS operators.[334] First, WCA requests that the Commission recommend that Congress amend the program access law to cover all cable networks, regardless of ownership or method of delivery. WCA notes that the migration of programming networks from satellite to terrestrial delivery is accelerating, thereby limiting MMDS access to programming under the Commission's

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[326] Sprint Communications Company, LP, *Sprint Agrees To Acquire Operating Units of WBS America, LLC* (press release), July 27, 1999.

[327] MCI WorldCom, Inc., *MCI Worldcom Completes CAI Wireless Acquisition* (press release), Sept. 1, 1999.

[328] PRNewswire, *Wireless One to Become Wholly-Owned Subsidiary of MCI WorldCom*, July 20, 1999.

[329] *Comm. Daily Notebook*, Comm. Daily, July 21, 1999. Southern Wireless Video, Inc., was formerly known as PrimeOne Tele-TV, which purchased and currently operates the digital MMDS system in Southern California that was launched by Pacific Bell. *See 1998 Report*, 13 FCC Rcd at 24354 ¶ 112.

[330] Elizabeth Douglass, *MCI-Sprint Merger Could Speed Race for High-Speed Access*, Oct. 17, 1999, http://www.techserver.com/noframes/story/0,2294,500046516-500076035-500169460-0,00.html.

[331] Jim Barthold, *Wireless Stepchildren Becoming Empowered*, CableWorld, Aug. 16, 1999, at 38, 41. Kevin Brauer, Sprint's President, National Integrated Services, indicated that digital video may be part of Sprint's plans. Brauer specifically mentioned People's Choice TV's digital MMDS and high-speed Internet access services in Phoenix as a possible model. The Phoenix system also competes with Cox cable and U S West's VDSL system. Alan Breznick, *In Phoenix, Everyone Wants a Piece of the Action*, CableWorld, July 19, 1999, at 16.

[332] *See Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions, Report and Order, Docket No. 97-217, 13 FCC Rcd 19112 (1998); Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions*, MM Docket No. 97-217, Order on Reconsideration, 14 FCC Rcd 12764 (1999).

[333] *See also 1998 Report*, 13 FCC Rcd at 24338 ¶ 85, fn. 370.

[334] *See* ¶ 132 *infra* (summarizing BellSouth's comments regarding barriers to competition).

program access rules.[335] WCA also contends that the consolidation and clustering of cable systems gives cable MSOs leverage vis-à-vis local broadcast network affiliates, allowing cable operators to negotiate retransmission consent agreements that discriminate against competing MVPDs. WCA further reports that broadcast networks have signed exclusive distribution agreements with cable operators for their cable networks as part of retransmission consent agreements. Accordingly, WCA asks that the Commission recommend that Congress enact legislation that contains non-discrimination provisions for retransmission consent agreements.[336] WCA also recommends that the Commission continue to act quickly on antenna preemption and other access to premises issues, and that the Commission request clarification of its jurisdiction in those areas where there may be doubts as to the scope of the Commission's authority, especially in regard to MDUs.[337] WCA further asks the Commission to seek clarification from Congress concerning the Commission's jurisdiction over "home run" wiring and its authority to adopt rules concerning the disposition of such wiring. WCA generally agrees with current rules concerning wiring, but states that the rules should not allow a departing cable operator to remove its wiring when it could instead sell the wiring at depreciated value to alternative MVPDs. According to WCA, MDU owners may deny access to competing MVPDs out of concern that cable companies may elect to remove their wiring, thus requiring a potentially damaging and disruptive new installation by an alternative MVPD.[338]

E. Satellite Master Antenna Television Systems

92. SMATV systems are satellite systems used to distribute television signals to households located in one or more adjacent buildings, primarily serving urban and suburban MDUs.[339] SMATV systems do not use public rights-of-way, and thus fall outside of the Communications Act's definition of a cable system.[340] In general, SMATV operators are subject to less regulatory oversight than traditional cable systems.[341] Some SMATV systems use microwave transmissions and wires to serve multiple buildings that

[335] WCA Comments at 5-11.

[336] *Id.* at 11-14. WCA specifically cites MSNBC, owned by NBC, and FX, owned by Fox.

[337] *Id.* at 14-17.

[338] *Id.* at 17-20.

[339] SMATV providers receive and process satellite signals directly at an MDU or other private property with an on-site headend facility consisting of receivers, processors and modulators, and distribute the programming to individual units through an internal hard-wire system in the building. Regulatory changes in 1991 made 18 GHz technology available for the point-to-point delivery of video programming services, allowing operators to free themselves from large networks of coaxial or fiber optic cable and amplifiers. Operators using this technology are known as enhanced SMATV operators, and because of efficiency savings, they are more competitive with cable operators than standard SMATV operators. *1997 Report*, 13 FCC Rcd at 1085 ¶¶ 82–83; *1998 Report*, 13 FCC Rcd at 24339-40 ¶ 88.

[340] 1996 Act, sec. 301(a)(2), 47 U.S.C. § 522(7).

[341] 1996 Act, sec. 301(a)(2), 47 U.S.C. § 522(7). For example, private cable and SMATV operators: (a) are not required to obtain cable television franchises; (b) do not face regulatory constraints on the geographic areas in which they may offer video services; (c) do not pay franchise and Federal Communications Commission subscriber fees; (d) are not obligated to pass every resident in a given area; (e) are not subject to rate regulation; and (f) are not subject to must carry and local government access obligations. *1997 Report*, 13 FCC Rcd at 1085 ¶ 82, fn. 296.

are not commonly owned.[342] Under the 1996 Act, SMATV operators may use wires to connect separately owned buildings, as long as the wires do not traverse public rights-of-way.[343]

93. On July 13, 1999, the Commission adopted a *Notice of Proposed Rulemaking* seeking comment on a proposal to allow SMATV operators to use Cable Television Relay Service ("CARS") 12 GHz band channels to deliver video programming.[344] The proceeding was initiated in response to a petition filed by OpTel, a SMATV operator, on April 1, 1998. While OpTel sought such authorizations only for SMATV systems, the Commission broadened the proceeding to potentially include all MVPDs as potential CARS licensees.[345] The Commission also sought comment on whether the CARS band should be expanded to include the frequency band segment from 13.20-13.25 GHz, currently designated for television broadcast auxiliary service.[346]

94. ***SMATV Operators***. SMATV operators, also known as private cable operators, consist of hundreds of private and public, small and medium size firms throughout the nation.[347] Among the largest SMATV operators as of June 1999, were OpTel, Cable Plus, MidAtlantic Communications, and OnePoint Communications Corp.[348] These relatively large SMATV operators serve between 45,000 and 216,249 subscribers each.[349] Many SMATV operators serve approximately 3,000-4,000 customers.[350]

95. ***Growth***. As of December 1997, there were approximately 24.9 million year-round occupied "households" (individual dwelling units) located in MDU housing in the United States, compromising approximately 25% of the estimated 99.5 million total year-round occupied housing units nationwide.[351] Because SMATV systems generally serve MDUs, and since a portion of MDUs are

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[342] 1997 Report, 13 FCC Rcd at 1085 ¶ 82. The Commission held in 1991 that microwave transmissions do not "use" public rights-of-way *Amendment of Part 94 of the Commission's Rules to Permit Private Video Distribution Systems of Video Entertainment Access to the 18 GHz Band*, PR Docket No. 90-5, Report and Order, 6 FCC Rcd. 1270, 1271 ¶10 (1991).

[343] 1996 Act sec. 301(a)(2), 47 U.S.C. § 522(7). Prior to the 1996 Act, to qualify for this exception the buildings had to be under common ownership, control, or management. *1997 Report*, 13 FCC Rcd at 1085 ¶ 82, fn 297.

[344] *Petition for Rulemaking To Amend Eligibility Requirements in Part 78 Regarding 12 GHz Cable Television Relay Service*, CS Docket No. 99-250, Notice of Proposed Rulemaking, FCC 99-166 (rel. July 14, 1999).

[345] *Id.* at ¶ 4.

[346] *Id.* at ¶ 8.

[347] *1997 Report*, 13 FCC Rcd at 1085 ¶ 84; *1998 Report*, 13 FCC Rcd at 24341 ¶ 90.

[348] *Who's Who in Private Cable*, Private Cable & Wireless Cable, Dec. 1998, at 18; facsimile from Independent Cable Television Association ("ICTA"), Oct. 13, 1999, at 2. On October 28, 1999, OpTel, Inc., voluntarily sought protection under Chapter 11 of the U.S. Bankruptcy Code.

[349] *Who's Who in Private Cable*, Private Cable & Wireless Cable, Dec. 1998, at 18; facsimile from ICTA, Oct. 13, 1999, at 2.

[350] Facsimile from ICTA, Oct. 13, 1999, at 2.

[351] U.S. Census Bureau, *American Housing Survey for the United States in 1997*, Table 1A-1: "Introductory Characteristics–All Housing Units," Oct. 1999.

currently governed by "perpetual" or long-term exclusive contracts with franchised cable operators, SMATV operators' potential residential subscriber base is likely somewhat less than 25% of all households nationwide.[352] Last year, we reported that there were 940,000 residential SMATV subscribers, as of June 1998.[353] This year, the same source estimates that there were approximately 1.5 million SMATV subscribers as of June 1999.[354]

96. ***Advanced and Other Service Offerings.*** Over the past several years, private cable operators offering service over SMATV systems have begun to offer many of the same services offered by franchised cable operators, including local and long distance residential telephone service and Internet access.[355] In previous years, we reported that SMATV providers offer other unique services such as closed-circuit security monitoring, voice mail, paging, and touch-screen monitor kiosk customer service.[356] Video services generate the most revenue for SMATV operators, followed by Internet access service, pay-per-view service, security services, and telephony.[357] OpTel, the nation's largest SMATV provider, offers bundled voice, video and data services to MDU residents in 13 markets.[358] OnePoint Communications Corp., a leading SMATV operator and licensed competitive local exchange carrier ("CLEC"), offers telephony and Internet access.[359]

97. SMATV operators continue to upgrade their systems in order to increase channel capacity and service offerings.[360] According to one source, average channel capacity among those responding to a recent poll was approximately 89 channels, with a low of 50 channels and a high of 200 channels offered.[361]

98. ***SMATV/DBS Combination Services.*** As we reported last year, SMATV operators have joined with satellite providers to offer flexible, low-cost programming options to MDU consumers.[362] In particular, SMATV operators combine analog antenna and DBS systems in order to offer MDU residents

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[352] Facsimile from ICTA, Oct. 13, 1999, at 2. "Perpetual" contracts generally provide that they run for the term of a franchise "and any extensions thereof."

[353] *1998 Report*, 13 FCC Rcd at 24341 ¶ 90.

[354] NCTA Comments at 5. Last year, NCTA estimated that there were 940,000 residential SMATV subscribers as of June 1998. *See* App. C, Tbl. C-1. *See also*, *1998 Report*, 13 FCC at 24341 ¶ 90. The increase in the number of estimated SMATV subscribers over last year may be attributable to the inexact method used for estimating SMATV subscribers.

[355] OpTel Comments at 3; *1997 Report*, 13 FCC Rcd at 1085 ¶ 84; *1998 Report*, 13 FCC Rcd at 24342 ¶ 92.

[356] *1998 Report*, 13 FCC Rcd at 24342 ¶ 92.

[357] *Private Cable Industry Facts*, Private Cable & Wireless Cable, Dec. 1998, at 4.

[358] *Who's Who in Private Cable*, Private Cable & Wireless Cable, Dec. 1998, at 18.

[359] *Id.*

[360] *1998 Report*, 13 FCC Rcd at 24342 ¶ 91.

[361] Facsimile from ICTA, Oct. 13, 1999, at 2. Nineteen SMATV operators responded to ICTA's request for SMATV system information.

[362] *1998 Report*, 13 FCC Rcd at 24342-3 ¶ 93.

analog and digital programming without the need for an individual satellite dish.[363] Such systems can offer residents traditional SMATV service alone, or a "bulk service" that combines traditional SMATV with select DBS feeds.[364] The bulk offerings can provide local programming and non-broadcast networks at a low-cost.[365] Residents can also choose DBS on an a la carte basis and can thereby receive more channels than are available from bulk service.[366] As a partner with DBS companies, SMATV operators can receive commissions on DBS subscriptions sold or on activation bonuses.[367] The relationship can be beneficial to both the SMATV and DBS industries, and is similar to the relationship DBS is building with MMDS systems.[368]

99. ***Uniform Rates and Inside Wiring.*** SMATV operator OpTel remains concerned about several issues that relate to its efforts to compete in the MDU market. Of particular concern is a decision by the Commission to allow franchised cable operators to offer "bulk" discounts to residents of MDUs on an individual basis.[369] OpTel also raises concerns over the use of existing wiring in an MDU.[370] The Commission continues its review of comments submitted in the *Second Further Notice of Proposed Rulemaking* on the matter of inside wiring.[371]

100. ***Real Estate Owners and Property Managers.*** The relationship between SMATV providers and real estate investment trusts ("REITS"),[372] national property management companies and ownership groups, has changed. Exclusive rights to a property in exchange for a revenue share, as described in last year's report, is, according to one report, becoming increasingly rare.[373] Property managers are increasingly aware of MVPD technology issues, and are investing in infrastructure in order to gain flexibility of choice over video providers.[374] SMATV operators, on the other hand, are focusing on

[363] Cathy Stephens, *Connect Television's C-Band/DBS Solution*, Private Cable & Wireless Cable, Oct. 1999, at 14 ("Stephens, Oct. 1999").

[364] OpTel Comments at 3; Stephens, Oct. 1999.

[365] Stephens, Oct. 1999; *see also* http://www2.multihousing.com/infocenter/privatecable/index.html.

[366] Stephens, Oct. 1999.

[367] Paul Kagan Assocs., Inc., *ICTA Show: Echostar Gets Serious on MDU Alliances*, Wirelsss-Private Cable Investor, Aug 6, 1999, at 9; *DBS Distribution System for MDUs Reduces Costs*, Private Cable & Wireless Cable, Sept. 1999, at 40.

[368] *See* ¶ 88 *supra.*

[369] OpTel Comments at 4-5; *Implementation of Cable Act Reform Provisions of the Telecommunication Act of 1996*, CS Docket No. 96-85, Report and Order, 14 FCC Rcd 5296 (1999); *see* ¶ 158 *infra.*

[370] *See* ¶¶ 154-156 *infra.*

[371] *See* ¶ 155 *infra.*

[372] A real estate investment trust ("REIT") is essentially a corporation or business trust that combines the capital of many investors to acquire or provide financing for all forms of real estate. *1997 Report*, 13 FCC Rcd at 1085 ¶ 89.

[373] *1998 Report*, 13 FCC Rcd at 24343 ¶ 94; James Gomez, *Business Trends Among MDUs: Looking for Creative Solutions*, Private Cable & Wireless Cable, July 1999, at 24 ("Gomez, July 1999").

[374] Gomez, July 1999; *see also* http://www2.multihousing.com/consulting/techno.html.

SMATV/DBS combination services and advanced services, such as telephony and Internet access, to attract property managers.[375] Many SMATV operators are becoming CLEC licensees, while also aligning with third-party providers of high-speed Internet access.[376] One analyst notes that most SMATV operators are at least testing the bundling of video, Internet, and telephone service.[377]

F. Broadcast Television Service

101. Broadcast networks and stations are competitors to MVPDs particularly in the advertising and program acquisition markets. Broadcast networks also compete with MVPDs by supplying video programming over the air, particularly to those who do not subscribe to an MVPD service. Additionally, broadcast networks and stations are suppliers of content for distribution directly to consumers and to consumers through MVPDs.[378] Since the *1998 Report*, the broadcast industry has seen continued growth in the number of operating stations and advertising revenues. The number of commercial and noncommercial television stations increased to 1599 as of July 31, 1999, from 1583 as of August 31, 1998.[379] Broadcast total advertising revenues reached $34.6 billion in 1998, a 6.7% increase over 1997.[380] Advertising revenues for the seven broadcast networks alone reached $16.3 billion in 1998.[381] In comparison, cable programming networks earned $6.9 billion in advertising revenue in 1998, an increase of 18.6% over 1997.[382]

102. During the 1998-99 television season, ABC, CBS, Fox, and NBC accounted for a combined 52% share of prime time viewing among all television households, compared to 55% in the previous year. UPN and WB achieved a combined 8% share of prime time viewing, down from 9% last year.[383] The most recent data available for households subscribing to cable service indicate that programming originating on local broadcast television stations accounted for a combined 56% share of 24-

[375] Paul Kagan Assocs., Inc., *ICTA Show: Echostar Gets Serious on MDU Alliances*, Wirelsss-Private Cable Investor, Aug. 6, 1999, at 10.

[376] Gomez, July 1999.

[377] Paul Kagan Assocs., Inc., *ICTA Show: Echostar Gets Serious on MDU Alliances*, Wirelsss-Private Cable Investor, Aug. 6, 1999, at 10; *See also* http://www2.multihousing.com/infocenter/privatecable/index.html.

[378] *See 1995 Report*, 11 FCC Rcd at 2113-15 ¶¶ 112-115.

[379] *Compare* Federal Communications Commission, *Broadcast Station Totals as of July 31, 1999*, FCC News Release (Aug. 12, 1999) *with* Federal Communications Commission, *Broadcast Station Totals as of August 31, 1998*, FCC News Release (Sept. 11, 1997).

[380] Television Bureau of Advertising, *TVB Releases 1998 TV Ad Figures* (news release), Mar. 10, 1999. The percentage growth over 1997 may be slightly overstated because the PaxTV network was added in the third quarter of 1998, but was not yet in existence in 1997.

[381] *Id.* This figure represents sales for ABC, CBS, Fox, NBC, UPN, and WB; the PaxTV network was added in the third quarter of 1998.

[382] NCTA, *Cable Advertising Revenue: 1983-1998 (In Millions)*, Cable Television Developments, Summer 1999, at 9 (*citing* Paul Kagan Assocs., Inc., *Cable TV Advertising*, May 21, 1999, at 2).

[383] *People's Choice: Broadcast Network Prime-Time Ratings According to Nielsen Media Research, Sept. 13-19*, Broadcasting & Cable, Sept. 27, 1999, at 74. Figures were not available for PaxTV.

hour viewing in the 1997-98 television season. Non-premium cable networks and pay cable services achieved a combined 57% share of 24-hour viewing, up from 54% the previous season. (Reported audience shares exceed 100% due to multiple set viewing.)[384]

103. The Commission has undertaken several rulemakings regarding its broadcast ownership and attribution rules. On August 5, 1999, the Commission revised its local market television ownership rules (the "TV duopoly" rule) and the radio-television cross-ownership (or "one-to-a-market") rule to reflect changes in the media marketplace. The revised rules recognize the growth in the number and variety of media outlets in local markets, including cable and direct broadcast satellite, and reflect the Commission's desire to permit broadcasters to realize the efficiencies of common ownership, consistent with diversity and competition in broadcast markets. The changes are intended to improve the ability of over-the-air broadcast services to compete, and thereby to continue to provide public service benefits.[385] The Commission also revised its broadcast and cable/MDS ownership attribution rules. The attribution rules define what constitutes a "cognizable interest" for purposes of applying the ownership rules.[386]

104. These changes permit further consolidation in the broadcast industry. Two major proposed transactions have been announced. The first is the merger of Viacom, Inc., and CBS Corporation.[387] The second is a "strategic investment" by NBC for the purchase of 32% of PaxTV. Additionally, NBC has the option to increase its ownership up to a total of 49% of PaxTV after February 1, 2002, and to have operating control of the company, if Commission rules will allow NBC this increase.[388]

105. National networks have also introduced "repurposing" of content. Repurposing generally involves a re-run of broadcast content on a cable network shortly after it airs originally on network affiliate stations. Repurposing has occurred on both cable networks affiliated with the broadcaster (e.g., NBC showing *Today* on MSNBC) and on unaffiliated cable networks (e.g., USA showing *Law & Order, Special Victim's Unit*, an NBC show).[389] NBC is also reportedly, in relation to the above-mentioned deal with PaxTV, considering repurposing some of its programming to PaxTV stations.[390]

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[384] NCTA, *Viewing Shares: Broadcast Years 1987/1988-1997/1998*, Cable Television Developments, Summer 1999, at 5 (*citing* Nielsen Media Research statistics).

[385] *Review of the Commission's Regulations Governing Television Broadcasting Television Satellite Stations Review of Policy and Rules*, MM Docket Nos. 91-221 and 87-8, Report And Order, 14 FCC Rcd 12903 (1999).

[386] *Review of the Commission's Regulations Governing Attribution of Broadcast and Cable/MDS Interests, Review of the Commission's Regulations and Policies Affecting Investment in the Broadcast Industry, Reexamination of the Commission's Cross-Interest Policy*, MM Docket Nos. 94-150, 92-51, 87-154, Report And Order, 14 FCC Rcd 12559 (1999).

[387] Viacom, Inc., *Viacom and CBS To Merge In Largest Media Transaction Ever* (press release), Sept. 7, 1999. Some divestiture may still be required under Commission rules, including the sale by Viacom of the UPN network.

[388] Paxson Communications Corporation, *NBC Makes Strategic Investment In Paxson Communications, Creating Path To Second National Distribution Outlet* (press release), Sept. 16, 1999.

[389] *See, e.g.*, John Higgins, *Cable's 2nd-Chance Strategy*, Broadcasting & Cable, Oct. 25, 1999, at 62 and Mike Reynolds, *NBC Gives Viewers Double Dose of Today*, Cable World, Oct. 4, 1999 at 6. Analysts report that USA Networks was able to gain the right to air *Law & Order, Special Victims Unit* because its studios produce the show.

[390] Steve McClellan, *The Peacocking of Pax*, Broadcasting & Cable, Oct. 11, 1999, at 68.

106. DTV could potentially enhance the ability of broadcasters to compete in the video marketplace. DTV allows broadcasters to transmit one very high quality signal (High Definition Television or HDTV), several standard definition signals, or ancillary services in addition to broadcast signals. As stated in the *1997 Report*, affiliates of the top four networks in the top ten markets were required to air digital signals by May 1, 1999.[391] Thirty-two of these stations are now on the air with DTV facilities.[392] As of December 8, 1999, all of the top ten markets had at least one affiliate of the top four networks broadcasting DTV service, and five of those markets had all of the affiliates of the top four networks broadcasting DTV. One or more affiliates in Chicago, Washington, D.C., New York City, Boston, and Atlanta have been granted extensions to complete construction.[393] November 1, 1999 was the deadline for the four network affiliates in Markets 11-30 (79 stations) to complete construction of their DTV facilities and to file license applications. As of December 8, 1999, 40 of these DTV permittees have filed requests for extension of time to constrict their facilities; 36 have completed construction and are on the air; 3 have special temporary authority to be on the air with DTV pending final action on their application. As of December 8, 1999, 267 DTV construction permits had been granted, with in excess of 969 additional applications pending.[394] At present, 111 stations broadcast DTV signals.[395] In addition, reports from the industry indicate that at least 27,000 DTV sets have been sold as of August 1999,[396] and the first digital VCR went on sale in July 1999.[397] Several cable MSOs and broadcast networks have reached agreements for the carriage of broadcast digital signals, including HDTV format and any other new services.[398] Simulcasts of some programming are currently available, and the major networks are planning more for the current season.[399]

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[391] *1997 Report*, 13 FCC Rcd at 1091-92 ¶ 94.

[392] National Association of Broadcasters, *Free, Over-the-Air Digital Television: Broadcasters Deliver Digital On-Time* (press release), Oct. 6, 1998.

[393] For an updated list on the status of DTV broadcasts, *see* the FCC website http://www.fcc.gov/mmb/vsd/files/dtvsum.html.

[394] For a full list of pending and granted DTV construction permits, *see* the FCC website, http://www.fcc.gov/mmb/vsd/dtvstatus.html.

[395] *Id.*

[396] Monica Hogan, *HDTV Feeling the Pains of Slow Growth*, Multichannel News, Aug. 9, 1999. Other reports indicate that demand for new digital television sets is outstripping supply, creating backlogs in retail stores. *See DTV Demand Exceeding Supply in Retail Shops*, Comm. Daily, Nov. 29. 1999, at 4.

[397] *Mass Media*, Comm. Daily, July 12, 1999. Panasonic manufactures the digital VCR, and reports that it is currently compatible only with Panasonic television sets. If other companies adopt the same copy-protection scheme, however, the digital VCR will also work with their television sets. In addition, the VCR is compatible with analog VCRs.

[398] See, e.g., *AT&T Broadband and Internet Services, NBC and AT&T Broadband & Internet Services Enter Into Long-Term Agreement* (press release), June 11, 1999.

[399] *See, e.g.*, Techweb, *DTV Sails Despite High Costs*, http://www.techweb.com/wire/story/TWB19990420S0006.html and Comm. Daily, *Broadcasters Express Confidence in DTV Reception*, Aug. 5, 1999, at 6.

107. At this point, there are still no "cable-ready" DTV sets. This generally means that in order to use a DTV set with a cable system, a consumer will need to use a set-top box. The use of set-top boxes for all television systems, not just those connected to cable, is expected to increase in popularity as consumer interest in the other attributes of DTV, including data transmission, increases. Consumer electronics manufacturers individually and through the Consumer Electronics Association ("CEA"), formerly the Consumer Electronics Manufacturers Association, are continuing to meet with representatives from OpenCable, individual cable systems, and NCTA in FCC-supervised sessions with the goal of reaching agreement on the standards necessary to produce a "cable-ready" set. The IEEE 1394 has become the adopted standard and accepted means of connecting the DTV set with a set-top box.[400] The issue of copy protection and adequate protection of digital copying remains an issue. (Unlike analog content, digital copies can be replicated pristinely and distributed in near-perfect condition.) The 5C standard (the Digital Transmission Content Protection "DCTP" Standard[401] has been generally adopted by the manufacturers, CableLabs, and the Motion Picture Association of America ("MPAA"), but there remain questions about licensing language and implementation. There continue to be questions as to how best to protect digital content from being copied whether it involves cable or satellite movies, over-the-air broadcast, or transmission over the Internet. Since consumers' adoption of DTV is contingent upon the availability of high-level digital content, the Commission continues to supervise and encourage negotiations on copy protection issues in the hope of facilitating the adoption of copy protection standards.

108. Questions have been raised about indoor DTV reception.[402] With DTV, as with the existing NTSC system, there will continue to be locations where reception without an outdoor antenna will be problematic. The expectation is, however, that reception will continue to improve with the installation of improved chips in next generation DTV receivers. In September, the Commission's Office of Engineering and Technology ("OET") reexamined the DTV modulation standard in response to a request from Commissioner Ness. In its report, OET recommended retention of the current 8-Level Vestigial Side-Band Standard ("8-VSB") after concluding that the relative benefits of changing to Coded Orthogonal Frequency Division Multiplex ("COFDM") were unclear and would not outweigh the costs of such a revision.[403]

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[400] NCTA, *Inter-Industry Consensus Reached on IEEE-1394 Digital Interface Specification* (press release), Nov. 2, 1998. In a letter to Decker Anstrom, President and CEO of the NCTA, and to Gary Shapiro, President of the Consumer Electronics Manufacturers Association ("CEMA"), Chairman Kennard had called upon the cable and the consumer electronics industries to work together to solve this problem. Specifically, Chairman Kennard had proposed that a standard be developed by November 1, 1998, so that compatible televisions could be available for sale by November 1999. The NCTA and CEMA standards agreement was in response to Chairman Kennard's letter. Letter from William E. Kennard, Chairman, FCC, to Decker Anstrom, President and CEO, NCTA and Gary Shapiro, President, CEMA, Aug. 13, 1998.

[401] The "5C" companies are Intel, Toshiba, Sony, Hitachi, and Matsushita. *See 1998 Report*, 13 FCC Rcd at 24347 ¶ 100.

[402] *See* Petition for Expedited Rulemaking filed by Sinclair Broadcast Group, Inc., Oct. 8, 1999, requesting the current 8-VSB standard be expanded to include COFDM as well. The Commission has not yet acted on Sinclair's petition, and nothing herein is intended to prejudge its resolution. *See also* Opposition to Petition for Expedited Rulemaking and Motion for Its Immediate Dismissal filed by Consumer Electronics Manufacturers Asociation, Oct. 14, 1999.

[403] *See* Office of Engineering and Technology, *DTV Report on CODFM and 8-VSB Performance*, Sept. 30, 1999, at 5.

109. DTV has the potential to allow broadcasters to become more effective competitors with cable operators in the MVPD market.[404] Possible new broadcasting services include HDTV, multicasting, combination of frequencies to provide packages of services, and interactive services such as delivering Internet content to computers. For example, Geocast and Hearst-Argyle Television recently signed an agreement to allow Geocast to use Hearst-Argyle DTV spectrum to deliver Internet content to computers. Geocast reports that it anticipates similar agreements with larger broadcasters.[405] Despite these possibilities, however, it is not clear how DTV services will develop, or how significant a competitor broadcast will be in the changing MVPD market.

G. Other Entrants

1. Internet Video

110. Since our last *Report*, real-time and downloadable video accessible over the Internet ("Internet video") has become more widely available.[406] Access to and use of the Internet is increasing, as are the number of products available for accessing Internet video.[407] In addition, media companies continue to offer increasing amounts of video over their Websites. However, at this time, the quality of most long form programming offered over the Internet is an open question and current Internet capacity limits the number of viewers who can access long form Internet video simultaneously.[408]

111. Over the past year, Apple Computer and Microsoft began offering software for accessing Internet video.[409] Real Networks, however, remains the dominant provider of Internet video software.[410] As of July 1999, it provided service to more than 80% of the streaming video audience.[411] Apple's

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[404] *1998 Report*, 13 FCC Rcd at 24347-8 ¶ 101.

[405] *Geocast to Sign Data Deal With TV*, Comm. Daily, Oct. 7, 1999.

[406] Internet video is also known as "streaming video," because data are "streamed" over the Internet to provide continuous motion video.

[407] By July 1999, there were 42 million households connected to the Internet, and it was estimated that there were more than 100.7 million adult Internet users in the United States. Of all Internet users, 17% claim to use the Internet only at work, 40% state they use the Internet only at home, and 43% indicate they use it both at work and at home. *Internet User Trends: Midyear 1999*, Strategis Group, July 1999, at 15, 38, and 53.

[408] Internet video still has not reached the quality of traditional video because of limited bandwidth and transmission delays of the Internet itself. *See* Joyce Slaton, *Prime Time for NetTV?*, Wired News, Sept. 27, 1999; New York Times Staff, *A Satellite Model for Streaming Media*, The New York Times on the Web, Oct. 11, 1999, http://www.nytimes.com/library/tech/99/10/biztech/articles/11data.html.

[409] Gary Arlen, *Steam-rolling Into Video Reality*, Multichannel News, July 19, 1999, at 112 ("Arlen, July 1999"); Karen Brown, *Video Streaming on the Cusp of Reality*, Cable World, June 7, 1999, at 104. In the *1998 Report*, we reported that Real Network's RealPlayer is a leader in software for Internet video playback. *See 1998 Report* 13 FCC Rcd at 24349 ¶ 104.

[410] *See 1998 Report* 13 FCC Rcd at 24349 ¶ 104.

[411] Arlen, July 1999; *See also* http://www.real.com/company/index.html.

QuickTime[412] and Microsoft's Windows Media and Media Player,[413] like Real Network's RealPlayer,[414] can be downloaded directly from the Internet.

112. There also has been an increase in the number of software products designed to enhance the viewing of streaming video. For example, Virage and Excalibur Technologies sell software that searches the Internet for video, and enables users to access specific visual segments.[415] ChannelSeek and The Media Channel catalogue and list available Internet video.[416] iBEAM Broadcasting has developed a technology that allows it to deliver streaming video to hundreds of thousands of simultaneous Internet users, promising 100% stream availability.[417] As of October 1999, iBEAM had entered into partnerships with more than 60 ISPs to deliver its product.[418] Lariat Software offers a product that measures and reports the viewership of streaming video.[419]

113. The amount of Internet video content also has increased over the last year. Streaming content has become common on many Web pages.[420] In addition, many Web pages are specifically designed to offer Internet audio and video. For example, Broadcast.com, which refers to itself as an "Internet broadcast network," expanded its offerings in 1998 and the first half of 1999.[421] Broadcast.com offers connectivity to live radio and television broadcasts featuring business and sporting events, full-length CDs, concerts, news, audio books, and various other audio and visual options.[422] BreakTV.com, iCast, TV on the Web, and Den TV.com, also offer numerous content selections.[423] In October 1999, the National Football League Quarterback Club bought equity in Pseudo Programs, Inc., whose Pseudo.com began

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[412] http://www.apple.com/quicktime/.

[413] http://www.microsoft.com/windows/windowsmedia/en/default.asp.

[414] http://www.real.com.

[415] Arlen, July 1999; *See also* http://www.virage.com.

[416] Arlen, July 1999; *See also* http://www.mediachannel.com/info.htm; http://www.channelseek.com.

[417] John Townley, *iBEAM Broadcasting Announces Alliances With 60 Providers,* Streaming Media News, Oct. 14, 1999, http://www.internetnews.com/streamingmedianews/article/0,1087,8161_218231,00.html; New York Times Staff, *A Satellite Model for Streaming Media*, The New York Times on the Web, Oct. 11, 1999, http://www.nytimes.com/library/tech/99/10/biztech/articles/11data.html.

[418] *Id.*

[419] Arlen, July 1999; *See also* http://www.lariat.com

[420] Karen Brown, *Video Streaming on the Cusp of Reality*, Cable World, June 7, 1999, at 104.

[421] Joyce Slaton, *Prime Time for NetTV?*, Wired News, Sept. 27, 1999.

[422] http://www.broadcast.com.

[423] Arlen, July 1999; *See also* http://www.icast.com; http://www.tvontheweb.com; http://www.dentv.com; http://www.breaktv.com.

webcasting in December 1999, offering live, animated and interactive programming of football and other sports.[424]

114. Broadcast and non-broadcast networks are also offering increased amounts of streaming video. On November 17, 1999, ABC webcast a portion of *The Drew Carey Show* simultaneously with its television broadcast.[425] On October 9, 1999, Cisco Systems, in conjunction with the United Nations Development Program, webcast a live, world-wide, all day concert called NetAid, which was also cablecast on VH-1 and MTV.[426] Organizers of NetAid claimed that the webcast of the concert was the most watched video streaming event ever to occur over the Internet.[427] In October 1999, ABC news launched a thrice-weekly webcast anchored by Sam Donaldson.[428] The advertiser-supported webcast is 15 minutes in duration.[429]

115. Because of technical demands, broadband networks provide the optimal venue for the delivery of streamed video content.[430] While there is much streaming video content available to viewers who access the Internet via telephone dial-up connections, some companies, such as Like Television, offer content exclusively or almost entirely for broadband consumers.[431] However, access to streaming video over cable broadband networks can be limited. Online provider @Home currently reserves the right to limit customers to 10-minute streaming segments.[432]

116. Despite the increase in interest in Internet video, the medium is still not seen as a direct competitor to traditional video services, and industry observers believe video streaming is in the formative

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[424] Reuters, *NFL Quarterbacks Invest In Online TV Programmer*, Excite, Inc., Oct. 13, 1999, http://news.Excite.com/news/r/991013/01/net-tech-pseudo?printstory=1.

[425] *Drew-cam to Simulcast Comedy*, Cable World, Oct. 18, 1999, at 3. In response to advertisers' concerns, ABC opted not to simulcast the full episode.

[426] On October 9, 1999, overlapping concerts were held in Giants Stadium in New Jersey, Wembley Stadium in London, and the Palais des Nations in Geneva, Switzerland. The collective concerts were called "NetAid." Jennifer Mack, *NetAid concert delivers 2.38M Streams,* zdnet, Oct. 11, 1999, http://www.zdnet.com/filters/printerfriendly/0,6061,2351805-2,00.html

[427] *Id.*

[428] Alan Breznick, *ABC Launches Live Video Newscasts on Web*, CableWorld, Oct. 4, 1999, at 10.

[429] *Id.*

[430] Broadband enables the transfer of data at 300Kbps, the speed at which some media players are able to offer full-screen video streams of thirty frames-per-second, which is widely considered broadcast or cablecast quality video.

[431] Joyce Slaton, *Prime Time for NetTV?*, Wired News, Sept. 27, 1999. *See also* http://www.liketelevision.com.

[432] "...a principal cable partner has the right to block access to certain content, including streaming video segments of more than ten minutes in duration..." At Home Corporation, *Filing 10-K/A for the Year Ended December 31, 1998*, Apr. 28, 1999, at 39.

stages of development.[433] Internet video is still used primarily for short news segments, sports clips, and other brief video excerpts.[434]

2. Home Video Sales and Rentals

117. The home video marketplace includes the sale and rental of video cassettes, laser discs, and digital video or versatile discs ("DVDs"). In previous reports, we considered home video sales and rentals as part of the video programming market since they provide video services[435] similar to the premium and pay-per-view services offered by MVPDs.[436] We noted that premium and pay-per-view cable services are not regulated because they are competitive with the home video sales and rental market, and also that the home video retail industry is highly competitive.[437] It is estimated that 82% of all U.S. households own at least one VCR.[438] About two million homes have laser disc players.[439] In the two years since being introduced, the number of homes with DVD players has reached about the same number.[440] There are between 25,000 and 30,000 video specialty stores selling or renting home video programming,[441] and several of these retailers sell video programming through Internet sites.[442] The largest stores carry at least 7,500 titles in video cassette format.[443] Such video programming is also available at a variety of other retail

[433] Karen Brown, *Video Streaming on the Cusp of Reality*, Cable World, June 7, 1999, at 104.

[434] *Id.*

[435] Programming available for rent or purchase in the various home video formats now include theatrically-released movies, direct-to-video titles, certain movies originally shown on premium channels, documentaries, and concerts. Viacom Inc., SEC Form 10-K405, March 31, 1999 ("Viacom 10-K").

[436] *See, e.g., Competition, Rate Deregulation and the Commission's Policies Relating to the Provision of Cable Television Service*, MM Docket No. 89-600, Report, 5 FCC Rcd 4962, 5019-20 ¶¶ 109-110 (1990); 1995 Report, 11 FCC Rcd at 2118-9 ¶ 121; 1998 Report, 13 FCC Rcd at 24350 ¶106. Viacom states that its Blockbuster Video Stores compete with direct-to-home satellite services, cable, and broadcast television. Viacom 10-K. See also Hollywood Entertainment Corporation, SEC Form 10-K, filed March 31, 1999 ("Hollywood Entertainment 10-K"); TiVo Inc., SEC Form S-1/A, filed September 23, 1999 ("TiVo S-1/A").

[437] *1997 Report*, 13 FCC Rcd at 1096-7 ¶¶ 103-4.

[438] *U.S. Industry & Trade Outlook '99*, The McGraw-Hill Companies and U.S. Department of Commerce/International Trade Administration, at 32-5; Hollywood Entertainment 10-K *citing* Adams Media Research.

[439] Tom Shales, *Shall We Dance? With DVD, Indeed*, Washington Post, June 2, 1999, at C1.

[440] *Id.*

[441] Hollywood Entertainment 10-K *citing* Video Software Dealers Association ("VSDA") statistics.

[442] For example, Hollywood Entertainment acquired Reel.com as a distribution channel to complement its video stores. Hollywood Entertainment 10-K. Best Buy and Blockbuster also have Internet sites for purchasing video programming; *see* http://www.bestbuy.com and http://www.blockbuster.com, respectively.

[443] Hollywood Entertainment 10-K.

outlets, including supermarkets, pharmacies, convenience stores, as well as at public libraries.[444] There are over 25,000 titles available in video cassette format.[445] There are 18,000 titles available on laser disc, and about 2,800 titles available on DVD, although this number is expected to grow rapidly and could reach 5,000 by the end of 1999.[446] The video retail industry is the largest source of revenue for movie studios, generating approximately $6.7 billion (or 48.5%) of the estimated $13.8 billion domestic studio revenue in 1998.[447]

118. In the last year, DVD player sales have continued to be strong both for low-end models costing about $300 and for high-end players priced over $1000.[448] However, unlike VCRs that can cost as little as $120, DVD players cannot record programming.[449] The number of homes with DVD players is expected to grow to 4 million this year.[450] Last year, we reported on Digital Video Express ("Divx"), a variation of the DVD format introduced nationwide in September 1998 by Circuit City and various partners.[451] Divx was intended to be a pay-per-view alternative for digital discs using a Divx-enabled DVD player connected to a telephone line that forwarded playing and billing information to a central computer.[452] In June 1999, Circuit City and its partners announced that they were abandoning the Divx format.[453] The failure of Divx has been attributed to consumers' resistance to having their viewing preferences tracked through the telephone billing system, the lack of support of the movie studios, and the limited retail availability of Divx players due to the unwillingness of Circuit City's competitors to carry its product.[454]

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[444] Hollywood Entertainment 10-K; Viacom 10-K.

[445] http://www.cemacity.org/mall/product/video/files/hstryvcr.htm.

[446] Tom Shales, *Shall We Dance? With DVD, Indeed*, Washington Post, June 2, 1999, at C1.

[447] Hollywood Entertainment 10-K *citing* statistics from Paul Kagan Associates; *see also 1997 Report*, 13 FCC Rcd 1096-7, ¶¶ 103, 105.

[448] The NPD Group, Inc., *DVD Sales SoarAs Two ConsumerMarkets Evolve, Reports INTELECT ASW* (press release), March 23, 1999, http://www.npd.com\corp\press\press_9903233.htm.

[449] *Now Playing: DVD/DIVX*, Consumers Reports, July 1999, at 26.

[450] http://www.videobusiness.com/news/P3177.asp. As of June 1999, more than 2.3 million DVD players had been shipped since their debut in early 1997. Daniel Greenberg and Mike Musgrove, *Digital Video Disarray*, Washington Post, June 25, 1999, Weekend at 70.

[451] *1998 Report*, 13 FCC Rcd at 24352 ¶109.

[452] *1997 Report*, 13 FCC Rcd at 1097-8 ¶ 106; *1998 Report*, 13 FCC Rcd at 24352 ¶ 109. *See also* Circuit City Stores, SEC Form 10-K, filed May 25, 1999.

[453] Divx players have been discontinued and the company plans to shut down its system on June 30, 2001. Daniel Greenberg and Mike Musgrove, *Digital Video Disarray*, Washington Post, June 25, 1999, Weekend at 70.

[454] Stephanie Stoughton, *Circuit City's Slipped Disk*, Washington Post, June 17, 1999, at E1.

119. A new home video technology, the personal video recorder ("PVR"), was recently introduced. PVRs are being developed by two companies, TiVo Inc. and Replay Networks Inc.[455] A PVR is a digital video recorder, similar in size to a VCR, which records and stores television programming on a disc drive.[456] Because it uses random access technology, a PVR can pause, rewind, and perform slow motion and instant replay of a live program. A PVR allows a viewer to watch an earlier portion of a program while later portions are still being broadcast and, similarly, to leave and return to a live program without missing any portion of the show. However, PVRs cannot play prerecorded video cassettes or discs. They are intended for use with a service that provides an onscreen programming guide through a telephone connection. The technology can be used to create personal menus, and it can learn a consumer's television preferences so that it will record programming in accordance with those preferences. PVRs and the onscreen programming guide service are available over the Internet and through toll free telephone numbers. Since September 1999, TiVo's player, manufactured by Philips, has been sold at by a number of retailers.[457] The price of a PVR depends on the amount of storage, ranging from $499 for TiVo's player with 14 hours of storage to $1500 for ReplayTV's player with 28 hours of storage.[458] A monthly TiVo subscription costs $9.95 and a lifetime subscription is $199.[459] Replay has no monthly fee and relies solely on advertiser support.[460] According to TiVo, as of June 1999, the number of PVRs sold and subscriptions to its service were "limited."[461]

H. Local Exchange Carriers

120. The 1996 Act amended section 651 of the Communications Act in order to permit telephone companies to provide video services in their telephone service areas. According to the statute, common carriers may: (1) provide video programming to subscribers through radio communications under Title III of the Communications Act;[462] (2) provide transmission of video programming on a common

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[455] John Markoff, *2 Makers Plan Introductions of Digital VCR*, New York Times, March 29, 1999, at C13. DirecTV is a partner with TiVo. DirecTV Comments at 19. Other investors in TiVo include Sony Corp. of America, CBS, NBC, Disney, Discovery, Comcast Communications, Cox Communications, Philips, and America Online. Glen Dickson, *Sony Hops on TiVo Train*, Broadcasting & Cable, September 13, 1999, at 38.

[456] For an additional description of PVRs, *see* DirecTV Comments at 19; TiVo Internet site, http://www.tivo.com; Replay TV Internet site, http://www.replaytv.com; Leslie Walker, *Getting Personal With Television*, Washington Post, April 24, 1999, at E1.

[457] Sony also plans to manufacture PVRs for TiVo. Glen Dickson, *Sony Hops on TiVo Train*, Broadcasting & Cable, September 13, 1999, at 38; CableFAX Daily, September 9, 1999, at 2; Circuit City advertising supplement to the Washington Post, November 7, 1999.

[458] http://www.tivo.com; http://www. replaytv.com.

[459] http://www.tivo.com.

[460] http://www.replaytv.com; John Markoff, *2 Makers Plan Introductions of Digital VCR*, New York Times, March 29, 1999, at C13.

[461] TiVo S-1/A.

[462] 47 U.S.C. § 571(a)(1).

carrier basis under Title II of the Communications Act;[463] (3) provide video programming as a cable system under Title VI of the Communications Act;[464] or (4) provide video programming by means of an open video system ("OVS").[465]

121. In previous *Reports*, we noted that while LECs were not yet a national competitor in the MVPD market, their competitive presence was growing.[466] Currently, it appears that the rate of entry may be slowing by even the most aggressive LECs, and several LECs have reduced or eliminated their MVPD efforts. The decline in the rate of entry of LECs into the MVPD market may indicate that some LECs have already entered the geographic markets they consider most profitable, and are now only filling gaps in areas of service.

1. Current and Planned LEC Video Delivery

122. ***MMDS.*** BellSouth remains the largest LEC investor in MMDS licenses and systems.[467] Since the *1998 Report*, however, BellSouth has not launched digital MMDS services in any additional localities.[468] BellSouth's MMDS service areas cover approximately 3.5 million homes in Florida, Atlanta, Louisiana, and Kentucky.[469] As of the third quarter of 1999, BellSouth had 130,000 MMDS subscribers.[470] In addition, GTE operates a digital MMDS system in Oahu, Hawaii.[471]

123. ***In-Region Cable Franchises.*** Ameritech continues to be the most significant LEC provider of in-region cable service. As of November 4, 1999, Ameritech had acquired 111 cable franchises

[463] 47 U.S.C. § 571(a)(2).

[464] 47 U.S.C. § 571(a)(3).

[465] 47 U.S.C. § 571(a)(3)-(4).

[466] *1995 Report*, 11 FCC Rcd at 2110 ¶ 103; *1996 Report*, 12 FCC Rcd at 4394 ¶ 67; *1997 Report*, 13 FCC Rcd at 1099 ¶ 108; *1998 Report*, 13 FCC Rcd at 24353 ¶ 111.

[467] *1998 Report*, 13 FCC Rcd at 24354 ¶ 112.

[468] As reported previously, BellSouth serves New Orleans, Atlanta, and Orlando, Florida with digital MMDS systems. BellSouth also reports that it offers analog MMDS service in Ft. Myers and Lakeland, Florida, and Louisville, Kentucky. BellSouth plans to launch digital MMDS service soon in Jacksonville and Daytona Beach, Florida, and holds the rights to offer this service to Miami, Florida. BellSouth Comments at 2. *See also 1998 Report*, 13 FCC Rcd at 24354 ¶ 112.

[469] BellSouth Comments at 2.

[470] William N. Deatherage and Bette Massick Colombo, "Telecommunications Services: Opinions, News, & Latest Results," *Equity Research – Telecommunications*, Bear Sterns & Co., Inc., Nov. 1999, at 173.

[471] *1998 Report*, 13 FCC Rcd at 24534 ¶ 112. On October 2, 1998, GTE Corporation and Bell Atlantic Corporation filed joint applications under Sections 214 and 310(d) of the Communications Act, 47 U.S.C. §§ 214 and 310(d), requesting Commission approval of the transfer of control of licenses and authorizations controlled or requested by GTE or its affiliates or subsidiaries to Bell Atlantic. This transfer of control would take place as the result of a proposed merger of Bell Atlantic and GTE. This merger is still under Commission review. For more information on the merger, *see* http://www.fcc.gov/ccb/Mergers/BA_GTE/welcome.html.

in Illinois, Indiana, Michigan, Ohio, and Wisconsin, potentially passing more than 1.7 million homes. Ninety-eight of Ameritech's cable franchises were operational as of November 4, 1999,[472] and it was the 23rd largest MSO in the country as of June 1999, serving 250,000 subscribers.[473] Ameritech continues to encounter significant competitive responses by incumbent cable operators.[474]

124. At the time of the *1998 Report*, in addition to its MMDS properties, BellSouth had acquired 18 cable franchises in Alabama, Florida, Georgia, South Carolina, and Tennessee, giving it the potential of passing 1.2 million homes. At that time, BellSouth provided service in nine of its franchised areas.[475] BellSouth now reports that it holds 21 franchises with the potential to pass 1.4 million homes. BellSouth states that it provides service in 12 of its franchise areas, and that it is negotiating with localities for additional franchises.[476] We previously reported that GTE received ten competitive cable franchises, and one non-competitive franchise.[477] GTE's non-competitive franchise in Cerritos, California, and the competitive franchises in Ventura County, California, and St. Petersburg and Clearwater, Florida, are operational.[478]

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[472] As of November 4, 1999, the active franchises were located in: *Illinois*: Glendale Heights, Naperville, Glen Ellyn, Arlington Heights, Elgin, Prospect Heights, Des Plaines, Schaumburg, Streamwood, Chicago (Area 5), Crestwood, South Holland, Oak Forest, Unincorporated DuPage County, Robbins, Mount Prospect; *Michigan*: Canton Township, Plymouth, Plymouth Township, Northville, Fraser, Northville Township, Southgate, Garden City, Troy, Wayne, Lincoln Park, Sterling Heights, Clinton, Mount Clemens, St. Clair Shores, Allen Park, Utica, Melvingdale, Royal Oak, Madison Heights, Warren, Trenton, Pleasant Ridge, Ferndale, Huntington Woods, Clawson, Berkley, Roseville, Eastpointe, Westland, Riverview, Taylor, Hazel Park, Woodhaven, Rochester Hills, Center Line, Harrison Township, Rochester, Shelby Township, Grosse Ile, Dearborn Heights; *Ohio*: Hilliard, Upper Arlington, North Olmsted, Columbus, Berea, Perry Township, Worthington, Clinton Township, Riverlea, Blendon Township, Sharon Township, Fairview Park, Franklin Township, Mifflin Township, Norwich Township, Marble Cliff, Valleyview, Minerva Park, Madison Township, Westlake, Jackson Township, Dublin, Prairie Township, Middleburg Heights, New Rome, Brice, Grandview Heights, Whitehall, North Royalton, Grove City, Brooklyn, Shaker Heights, Brook Park, Strongsville, Linndale, Garfield Heights, Gahanna, Westerville, Urbancrest, Bexley, Reynoldsville. The franchises which had not yet begun service were located in: *Illinois*: Vernon Hills, Calumet City, Glenview, Palos Park, Chicago Heights, Harvey; *Indiana*: Hammond; *Michigan*: Malcomb Township; *Ohio*: Canal Winchester, Valley View, Brecksville, Independence, Cuyahoga Heights. Ameritech New Media, *Ameritech New Media Cable Franchises* (news release), Nov. 4, 1999.

[473] Ameritech Comments at iii.

[474] Ameritech Comments at 1-3 and Exhibit 1.

[475] *1998 Report*, 13 FCC Rcd at 24355 ¶ 114.

[476] The active franchises are located in: Vestavia Hills, Alabama; St. Johns' County, Dade County, and Pembroke Pines, Florida; Counties of Cherokee, Dekalb, and Gwinnett and Cities of Chamblee, Duluth, Lawrenceville, and Woodstock, Georgia; and Daniel Island, South Carolina. BellSouth Comments at 2.

[477] The non-competitive franchise is in Cerritos, California. The competitive franchises are: Clearwater, St. Petersburg, Penellas County, Safety Harbor, and Dunedin, Florida; Camarillo, Thousand Oaks, Port Hueneme, Oxnard, and Ventura County, California. *1998 Report*, 13 FCC Rcd at 24355 ¶ 114.

[478] GTE Corp., http://www.gte.com/products/prods/americas.html. GTE reports that it has approximately 102,000 subscribers to its cable systems, and that it is offering cable modem service in some of those areas. http://www.gte.com/aboutgte/organization/business.html. GTE also reports that it offers "mainStreet" interactive (continued....)

125. SNET, which was recently acquired by SBC Communications, holds a statewide cable franchise in Connecticut, and currently offers service to 14 localities.[479] On August 25, 1999, SNET applied for and received permission from the Connecticut Department of Public Utility Control ("DPUC") to suspend construction of its statewide Hybrid Fiber-Coaxial ("HFC") network while it considers alternative technologies for video deployment, such as digital subscriber line ("DSL") technology.[480] SNET maintains that HFC is not an efficient technology for deployment of video services. The DPUC required SNET to continue video service where it has already begun to do so, and declined to relieve SNET of any of its statewide construction obligations. SNET is required to file a proposal on new technologies and for statewide construction by October 1, 2000.[481]

126. U S West continues to operate video systems in Omaha, Nebraska, and Phoenix, Arizona. In Phoenix, U S West uses very high speed digital subscriber line ("VDSL") for distribution of video, high-speed Internet access, and telephone service over existing copper telephone lines, and is still the only company in the country using this distribution technology.[482] In addition, U S West announced that it has begun trials of an interactive service that integrates customers' telephone, Internet access, and existing television service.[483] This service, delivered over dial-up or DSL connections to television sets, allows customers to switch between Web surfing and television watching, to do both simultaneously, to view caller ID information on their television screens, to answer the telephone via a speakerphone on a set-top box, and to check e-mail. Full-scale deployment of this service was expected in the fall,[484] but has not yet occurred.

127. Last year, we reported on concerns that SBC, then in the process of purchasing Ameritech, might sell or abandon Ameritech's cable overbuild efforts, given that SBC previously sold or abandoned PacBell MVPD services. In addition, SBC's Chairman Edward Whitacre, on May 19, 1998, had declined to commit to maintain Ameritech's video efforts.[485] Recently, Ameritech suspended deployment of new cable

(Continued from previous page)
television in Clearwater, Florida and Thousand Oaks, California. http://www.gte.com/products/prods/6-23-97-0.html.

[479] SNET Corp, http://www.snet.com/americast/amermain.htm.

[480] State of Connecticut, Department of Public Utility Control, *Application of SNET Personal Vision, Inc., To Modify Its Franchise Agreement*, Docket No. 99-04-02, Aug. 25, 1999.

[481] *Id.*

[482] *1998 Report*, 13 FCC Rcd at 24356 ¶ 114.

[483] U S West, *U S West Begins 3-City Trial of Nation's First Service to Integrate Customers' Telephone & Internet With Existing TV Service* (news release), June 21, 1999. The service is currently in trials with U S West employees in Denver, Minneapolis, and Phoenix.

[484] *Id.*

[485] *1998 Report*, 13 FCC Rcd at 24356-7 ¶ 115.

operations and suspended negotiation of new franchise agreements.[486] An SBC spokesman said that the operations would be suspended until a "deep review" of all business operations was completed.[487]

128. *OVS.* Although OVS is one of four means for LEC entry into video, the OVS rules do not preclude non-LECs from becoming OVS operators. Therefore some of the companies certified to provide OVS service are not LECs. The Commission has certified 13 OVS operators to offer OVS service in 28 areas, with some of the areas overlapping.[488]

129. RCN owns the only operating open video systems and holds OVS certifications in nine areas. RCN reports that it currently operates open video systems in areas surrounding the City of Boston, within the New York City metropolitan areas, and within and surrounding Washington, D.C.[489] RCN has somewhat less than 6,000 OVS subscribers in the areas around Boston, 50,000 OVS subscribers in New York City, and 3,000 OVS subscribers in the Washington, D.C., area. These systems also offer subscribers high-speed Internet access, and local and long distance telephone service.[490] In several areas for which it holds OVS certification, or in subsections of these areas, RCN has negotiated cable franchises with local franchising authorities. In these areas, RCN will or is already offering cable service instead of OVS service.[491] RCN states that it has experienced significant competitive response to its offerings.[492]

130. RCN reports that negotiation for OVS agreements with local authorities typically last three to four months, and proceed far more quickly than traditional cable franchise agreements negotiation. RCN states that its status as a certified OVS operator has allowed it to enter markets rapidly, whether or not it ultimately operates a cable or OVS system in those markets.[493] While RCN has had numerous inquiries from unaffiliated video program providers concerning access to its OVS systems, no such entity has yet elected to seek carriage on one of RCN's OVS systems.[494] Recently Paul Allen, owner of Charter Communications, made a $1.65 billion investment in RCN through Vulcan Ventures, Inc. RCN reports that this investment will fully fund its network building plans through 2003.[495] Other agreements between RCN

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[486] *SBC Reviewing Ameritech Overbuild Plans*, Comm. Daily, Nov. 19, 1999, at 5.

[487] *Id.*

[488] MFS has withdrawn its two certifications for New York City and Boston because it does not plan to operate open video systems in those areas. Bell Atlantic, in Dover Township, New Jersey, shut down its system in favor of its distribution agreement with DirecTV. For a complete listing of approved, pending, and denied applications for OVS certification, *see* http://www.fcc.gov/csb/csovscer.html.

[489] RCN Comments at 5-8.

[490] *Id.*

[491] *Id.*

[492] *Id.*

[493] *Id.* at 9-10.

[494] *Id.*

[495] RCN Corporation, *Paul G. Allen Invests $1.65 Billion in RCN Corporation* (press release), Oct. 4, 1999.

and Charter call for a joint venture to develop Internet portal services, and for RCN to provide telephony services for Charter in Los Angeles.[496]

131. In the *City of Dallas v. Federal Communications Commission*, the Fifth Circuit U.S. Appeals Court remanded a portion of the Commission's OVS rules, and struck down or confirmed other portions.[497] Specifically, the court reversed rules that preempted Title VI-like local franchise requirements for OVS operators. The court also: (a) reversed rules that banned LECs that are also cable operators from offering OVS in the absence of effective competition; (b) remanded to the Commission the rules that allowed OVS operators to decide whether to allow in-region cable operators access to the OVS system; and (c) granted BellSouth's request to allow companies to begin construction of video plant before receiving OVS approval. RCN states that "...the decision largely undercuts the regulatory design of, and economic viability of, OVS as a alternative mode of providing MVPD services and creates delay, uncertainty, and added expense for OVS operators."[498]

132. ***Barriers to Competition***. BellSouth, Ameritech, and RCN report that they have experienced difficulties obtaining programming.[499] All mention the actual or potential problem of migration of programs from satellite to terrestrial delivery in order to avoid the program access rules.[500] Ameritech and BellSouth report difficulty in gaining access to non-vertically integrated networks, and to cable networks owned by the over-the-air broadcast companies.[501] These two commenters also indicate that the trend in the cable industry toward increased horizontal concentration and clustering will continue to exacerbate these problems.[502] Ameritech, BellSouth, and CCC also report that incumbent cable operators receive steep discounts for popular programming networks, thus putting entrants at a competitive disadvantage.[503] Ameritech reports that these discounts cannot be justified by cost-based measures, as Commission rules require.[504] BellSouth states that the Commission has not been sufficiently stringent in

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[496] *Id.*

[497] *City of Dallas v. Federal Communications Commission*, 165 F.3d 341 (5th Cir. 1999), recon. den. May 28, 1999. The Commission implemented these changes in *Implementation of Section 302 of the Telecommunications Act of 1996*, CS Docket No. 96-46, Order on Remand, FCC 99-341 (rel. Nov. 19, 1999).

[498] RCN Comments at vi.

[499] Ameritech Comments at 5; BellSouth Comments at 4; RCN Comments at 18. *See also* CCC Reply Comments at 2-3.

[500] Ameritech Comments at 7; BellSouth Comments at 10-11; RCN Comments at 19-20. The program access provisions of the Communications Act require access to vertically integrated programming delivered to cable operators via satellite, but not to programming delivered via terrestrial means.

[501] Ameritech Comments at 5-7; BellSouth Comments at 8-10.

[502] Ameritech Comments at 9; BellSouth Comments at 5-8.

[503] Ameritech Comments at 10; BellSouth Comments at 12-13; CCC Reply Comments at 2-3.

[504] Ameritech Comments at 10-13.

applying its program access rules, particularly in regard to migration of programming to terrestrial delivery.[505]

133. The commenters also report that difficulties associated with gaining access to existing MDU inside wiring is disadvantageous for cable competitors, and ask that the Commission take further action to correct this problem.[506] RCN also asserts that its competitors are using OVS rules to gain access to sensitive competitive data, and that Commission rulings requiring RCN to disclose this information to cable companies have contributed to this problem.[507] RCN further indicates that it faces increasing difficulty accessing local rights-of-way on fair and reasonable terms.[508]

134. Ameritech and BellSouth recommend that the Commission alter the program access rules regarding migration to terrestrial delivery, access to non-vertically integrated programming, and programming fee discounts. If the Commission believes it lacks the statutory authority to make the requested changes, they ask that the Commission recommend that Congress grant this authority.[509] BellSouth further recommends that the AT&T-MediaOne merger be conditioned on a commitment that all AT&T-affiliated programming will be made available to alternative MVPDs on nondiscriminatory terms and conditions. Finally, BellSouth urges the Commission to recommend to Congress that the DBS "local into local" legislation prevent broadcast stations from denying retransmission consent to any MVPD.[510]

2. Ruling on Effective Competition

135. The Communications Act provides that a cable operator's rates are not regulated if the cable system is subject to effective competition.[511] The 1996 Act amended the effective competition provision of the statute in order to address competition from LECs, LEC affiliates, or MVPDs using LEC facilities.[512] In a *Report and Order* that implemented the new statutory language, the Commission determined that effective competition exists where the LEC video service "substantially overlaps" the

[505] BellSouth Comments at 14-17.

[506] Ameritech Comments at 13-15, 17; BellSouth Comments at 19; CCC Reply Comments at 3-4; RCN Comments at 15-17. RCN has sought a ruling from the Commission that will compel MDU incumbents to share existing wiring with RCN if the MDU owner refuses RCN's request to install its own wiring. Commission action on this matter is pending.

[507] RCN Comments at 11-15. The OVS rules allow potential unaffiliated programmers to gain information about open video systems from the system owner. RCN contends that cable operators are inquiring about carriage on its open video systems purely to gain access to sensitive data.

[508] *Id.* at 22-25.

[509] Ameritech Comments at 15-17; BellSouth Comments at 18.

[510] BellSouth Comments at 18.

[511] 47 U.S.C. § 543(l)(1)

[512] 47 U.S.C. § 543(l)(1)(D).

incumbent cable operator's service in the same franchise area.[513] Potential as well as actual LEC service can be considered, and the LEC programming service must be comparable to the incumbent cable operator's service.[514] The Commission determined that for a LEC service to be "comparable" it must offer at least 12 channels of video programming, including at least one channel of non-broadcast service.[515]

I. Electric and Gas Utilities

136. Utilities are not yet major competitors in the telecommunications or cable markets, but they possess characteristics that could potentially help them become competitively significant. Utilities own fiber-optic networks in some areas, and generally have access to public rights-of-way in the areas they serve. Utilities' provision of non-energy services may increase the value of their existing network and non-network assets. In addition, deregulation of utilities, accompanied by the advent of competition, is prompting more utilities to diversify and find new revenue streams.[516]

137. Since the *1998 Report*, several utilities have announced, commenced, or moved forward with ventures involving multichannel video programming distribution. Starpower, a joint venture between RCN and Potomac Electric and Power Company ("PEPCO") in the Washington, D.C. area, reports that it began video service this year.[517] Seren, a wholly owned subsidiary of Minneapolis-based Northern States Power, is currently offering cable and high-speed Internet access service as a cable overbuilder in St. Cloud and Waite Park, Minnesota.[518] It has also received franchise authorizations in Sartell and Sauk Rapids, Minnesota, and Concord, California, and has applied for franchises in Walnut Creek, Danville, Pleasant Hill, Clayton, and unincorporated Contra Costa, California.[519] In Iowa, several cities have authorized their municipal utilities to overbuild the local cable company, including Hawarden and Spencer.[520] In addition, the State Supreme Court in Iowa recently found that federal law prevents the state from prohibiting city utilities who operate cable systems from also offering other telecom services, such as telephone service.[521]

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[513] *Implementation of Cable Reform Act Provisions of the Telecommunications Act of 1996*, CS Docket No. 96-85, Report and Order, 14 FCC Rcd 5296 (1999).

[514] *Id.*

[515] *Id.*

[516] *See, e.g., 1998 Report*, 13 FCC Rcd at 24360 ¶¶ 120-121.

[517] *See* ¶ 129 *supra.*

[518] Seren Reply Comments at 1.

[519] *Id.*

[520] Linda Haugsted, *Iowa Reinstates Municipal Telco Services*, Multichannel News, Mar. 15, 1999, at 36; Joe Estrella, *City in Iowa OKs Triax, Will Overbuild*, Multichannel News, Mar. 15, 1999, at 18.

[521] *Iowa Telephone Association v. City of Hawarden*, 589 N.W.2d245 (1999). The federal law cited in the case is 47 U.S.C. § 541(b)(3)(B).

In Ohio, an overbuild system run by the municipal utility in Lebanon began service,[522] and the incumbent cable operator, Time Warner, responded with lower prices and the addition of channels and digital services.[523] Southlake, Texas, a community of 20,000 near Fort Worth, granted a cable franchise to Millennium Telecom, which is partially owned by Tri-County Electrical Cooperative, an area electrical cooperative.[524] Millennium Telecom is authorized to offer cable, high-speed Internet, long distance telephone, and security services in Southlake. Millennium Telecom already holds a similar authorization in Roanok, Texas, and has a telephone franchise in Fort Worth that it is seeking to expand into cable. Millennium Telecom is also seeking additional franchises in 13 other Texas communities.[525] Voters in Alameda, California, voted to grant the municipal electrical utility authority to add video to its system's offerings.[526] Finally, a municipal consultant recommended that Little Rock, Arkansas, combine with four neighboring communities to use its municipal electric and water utilities to overbuild the local cable provider.[527]

III. MARKET STRUCTURE AND CONDITIONS AFFECTING COMPETITION

A. Horizontal Issues in Markets for the Delivery of Video Programming

138. In this section, we examine two separate but related markets: (a) the market for the distribution of multichannel video programming to households, and (b) the market for the purchase of video programming by MVPDs. As explained in earlier reports, the market for the distribution of multichannel video programming is local in nature, while the market for the purchase of video programming by MVPDs is regional and national in nature.[528] In the distribution market, the buyers are individual households as well as families living in multiple dwelling units ("MDUs"), and the sellers are the MVPDs including cable operators and other video service providers such as DBS providers. In the programming purchasing market, the buyers are MVPDs, and the sellers are programming networks, studios and programming packagers.[529]

139. We first review changes in the market for the distribution of video programming, including changes in the level of competition in that market between July 1998 and June 1999. In our discussion of competition for the delivery of video programming to households, we also examine developments unique to MDUs, a significant sub-set of the market. We then review the market for the purchase of video

[522] Monica Hogan, *Municipal Overbuild Hits 2nd Ohio Town*, Multichannel News, Mar. 8, 1999, at 24. This system is in addition to the municipal utility cable overbuild that has been operating in Wadsworth, Ohio, for two years. Linda Haugsted, *City Happy With Its System in Wadsworth*, Multichannel News, Mar. 8, 1999, at 24.

[523] Joe Estrella, *Time Warner Cuts Rate to Fight Overbuild*, Multichannel News, Jul. 19, 1999, at 38.

[524] Joe Estrella, *Texas Electrical Co-op Will Fight Charter*, Multichannel News, Dec. 14, 1998, at 40.

[525] *Id.*

[526] Linda Haugsted, *Alameda Voters OK Municipal System*, Multichannel News, Nov. 30, 1998, at 77.

[527] Mike Farrell, *Little Rock Ready to Roll on Cable*, Multichannel News, Jan. 4, 1999, at 3.

[528] *1994 Report*, 9 FCC Rcd at 7541 ¶210; *1995 Report*, 11 FCC Rcd at 2123-24 ¶132; *1996 Report*, 12 FCC Rcd at 4419 ¶118; *1997 Report*, 13 FCC Rcd at 1121 ¶156; and *1998 Report*, 13 FCC Rcd at 24362 ¶125.

[529] *Id.*