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

In the Matter of	)	
	)	
Annual Assessment of the Status of	)	CS Docket No. 00-132
Competition in the Market for the Delivery	)	
of Video Programming	)	

SEVENTH ANNUAL REPORT

Adopted: January 2, 2001 **Released: January 8, 2001**

By the Commission: Commissioner Furchtgott-Roth dissenting and issuing a statement.

Table of Contents

I. INTRODUCTION

1. This is the Commission's seventh annual report ("*2000 Report*") to Congress on the status of competition in the market for the delivery of video programming.[1] Section 628(g) of the Communications Act of 1934, as amended ("Communications Act"), requires the Commission to report annually to Congress on the status of competition in the market for the delivery of video programming.[2] Congress imposed this annual reporting requirement in the Cable Television Consumer Protection and Competition Act of 1992 ("1992 Cable Act")[3] as a means of obtaining information on the competitive status of markets for the delivery of video programming.[4]

A. Scope of this Report

2. The *2000 Report* updates the information in our previous reports and provides data and information that summarize the status of competition in markets for the delivery of video programming. The information and analysis provided in this report are based on publicly available data, filings in various Commission proceedings, and information submitted by commenters in response to a *Notice of Inquiry* ("*Notice"*) in this docket.[5] To the extent that information provided in previous annual reports is still relevant, we do not repeat that information in this report other than in an abbreviated fashion, and provide references to the discussions in prior reports.

3. In Section II, we examine the cable television industry, existing multichannel video programming distributors ("MVPDs") and other program distribution technologies and potential competitors to cable television. Among the MVPD systems or techniques discussed are direct broadcast satellite ("DBS") services and home satellite dishes ("HSDs"), wireless cable systems using frequencies in the multichannel multipoint distribution service ("MMDS"), private cable or satellite master antenna television ("SMATV") systems as well as broadcast television service. We also consider other existing

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[1] The Commission's previous reports appear at: *Implementation of Section 19 of the 1992 Cable Act (Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming)*, CS Docket No. 94-48, First Report ("*1994 Report*"), 9 FCC Rcd 7442 (1994); *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, CS Docket No. 95-61, Second Annual Report ("*1995 Report*"), 11 FCC Rcd 2060 (1996); *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, CS Docket No. 96-133, Third Annual Report ("*1996 Report*"), 12 FCC Rcd 4358 (1997); *Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*, CS Docket No. 97-141, Fourth Annual Report ("*1997 Report*"), 13 FCC Rcd 1034 (1998); *Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*, CS Docket No. 98-102, Fifth Annual Report ("*1998 Report*"), 13 FCC Rcd 24284 (1998); and *Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*, CS Docket No. 99-230, Sixth Annual Report ("*1999 Report*"), 15 FCC Rcd 978 (2000).

[2] Communications Act of 1934, as amended, § 628(g), 47 U.S.C. § 548(g).

[3] Pub.L. No. 102-385, 106 Stat. 1460 (1992).

[4] The 1992 Act imposed a regulatory scheme on the cable industry designed to serve as a transitional mechanism until competition develops and consumers have adequate multichannel video programming alternatives. One of the purposes of Title VI of the Communications Act, Cable Communications, is to "promote competition in cable communications and minimize unnecessary regulation that would impose an undue economic burden on cable systems." 447 U.S.C. § 521(6).

[5] *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, CS Docket No. 00-132, Notice of Inquiry ("*Notice"*), 15 FCC Rcd 13563 (2000). Appendix A provides a list of commenters and the abbreviations by which they are identified herein.

and potential distribution technologies for video programming, including the Internet, home video sales and rentals, local exchange telephone carriers ("LECs"), and electric and gas utilities.

4. In Section III of this report, we examine market structure and competition. We evaluate horizontal concentration in the multichannel video marketplace and vertical integration between cable television systems and programming services. We also discuss competitors serving multiple dwelling unit ("MDU") buildings. We further address programming issues and technical advances. In Section IV, we examine a limited number of cases where consumers have a choice between an incumbent cable operator and another MVPD in a specific market and report on the effects of this entry.

B. Summary of Findings

5. In the *2000 Report*, we examine the status of competition in the market for the delivery of video programming, discuss changes that have occurred in the competitive environment over the last year, and describe barriers to competition that continue to exist. Overall, the Commission finds that competitive alternatives and consumer choices continue to develop. Cable television still is the dominant technology for the delivery of video programming to consumers in the MVPD marketplace, although its market share continues to decline. As of June 2000, 80 percent all MVPD subscribers received their video programming from a franchised cable operator, compared to 82 percent a year earlier.

6. The total number of subscribers to both cable and non-cable MVPDs continues to increase. A total of 84.4 million households subscribe to multichannel video programming services as of June 2000, up 4.4 percent over the 80.9 million households subscribing to MVPDs in June 1999. This subscriber growth accompanied a 2.4 percentage point increase in MVPDs' penetration of television households to 83.8 percent as of June 2000.

7. Since the *1999 Report*, the number of cable subscribers continued to grow, reaching 67.7 million as of June 2000, up about 1.5 percent from the 66.7 million cable subscribers in June 1999. The total number of non-cable MVPD subscribers grew from 14.2 million as of June 1999 to 16.7 million as of June 2000, an increase of almost 18 percent.

8. The growth of non-cable MVPD subscribers continues to be primarily attributable to the growth of DBS. DBS appears to attract former cable subscribers and consumers not previously subscribing to an MVPD. Between June 1999 and June 2000, the number of DBS subscribers grew from 10.1 million households to almost 13 million households, which is nearly three times the cable subscriber growth rate. DBS subscribers now represent 15.4 percent of all MVPD subscribers. There also have been a number of additional cable overbuilds in the last year. While the Commission has certified new open video systems, some OVS operators have converted portions of their systems to franchised cable operations. Over the last year, the number of subscribers to and market shares of HSD and MMDS subscribers continued to decline. However, the number of SMATV subscribers has increased slightly this year.

9. During the period under review, cable rates rose faster than inflation. According to the Bureau of Labor Statistics, between June 1999 and June 2000, cable prices rose 4.8 percent compared to a 3.2 percent increase in the Consumer Price Index ("CPI"), which measures general price changes. Concurrently with these rate increases, capital expenditures for the upgrading of cable facilities increased (up 89.3 percent over 1998), the number of video and non-video services offered increased, and programming costs increased (license fees increased by 12.2 percent and programming expenses increased by 16.2 percent). We also note that cable operators' pricing decisions may be affected where direct competition exists. Available evidence indicates that when an incumbent cable operator faces "effective competition," as defined by the Communications Act, it responds to such head-to-head

competition in a variety of ways, including lowering prices or adding channels without changing the monthly rate, as well as improving customer service and adding new services such as interactive programming.

10. The Telecommunications Act of 1996 ("1996 Act")[6] removed barriers to LEC entry into the video marketplace in order to facilitate competition between incumbent cable operators and telephone companies. At the time of the 1996 Act, it was expected that LECs would compete in the video delivery market and that cable operators would provide local telephone exchange service. We previously reported that there had been an increase in the amount of video programming provided to consumers by telephone companies, although the expected technological convergence that would permit use of telephone facilities for video service had not yet occurred. This year, we find that the rate of entry by LECs appears to be slowing even by the most aggressive telephone companies, and several LECs have reduced or eliminated their MVPD efforts. Most incumbent local telephone exchange carriers are seeking to sell their MVPD facilities (e.g., Ameritech and SNET's cable assets now owned by SBC, GTE's assets now owned by Verizon), preferring to market DBS service to their customers. BellSouth appeared to be the exception to this trend, offering MMDS service in an area covering 3.5 million homes and acquiring cable franchises in 21 areas with the potential to pass 1.4 million homes. In December 2000, however, BellSouth announced that it will phase out its wireless cable service and transition existing subscribers to EchoStar's DBS service, although it will continue to operate wireline cable systems. While the 1996 Act created the OVS framework as a means of entry into the video marketplace by LECs, few telephone companies have sought certification. Alternatively, only a limited number of cable operators have begun to offer telephone service and their strategies for deployment remain varied. MSOs, such as Cox and AT&T, continue to deploy traditional circuit-switched telephone service. Others, like Cablevision and Comcast, are offering cable–delivered telephony on a limited basis, waiting until Internet Protocol ("IP") technology becomes available before accelerating their rollout of telephone service, or continuing to test such service.

11. The most significant convergence of service offerings continues to be the pairing of Internet service with other service offerings. There is evidence that a wide variety of companies throughout the communications industries are attempting to become providers of multiple services, including data access. Cable operators continue to expand the broadband infrastructure that permits them to offer high-speed Internet access. Currently, the most popular way to access the Internet over cable is through the use of a cable modem and personal computer. Virtually all the major MSOs offer Internet access via cable modems in portions of their nationwide service areas. A small portion of cable Internet access is delivered through a television receiver rather than a personal computer. Many cable operators also are planning to integrate telephony and high-speed data access. Like cable, the DBS industry is developing ways to bring advanced services to their customers. For example, DirecTV currently offers a satellite-delivered high-speed Internet access service with a telephone return path called DirecPC. EchoStar now offers its subscribers an interactive program guide and weather service from OpenTV, a company that produces interactive television technology, and will soon launch Wink-enhanced TV, which allows viewers to use their remote controls to access program-related information, request product samples or free coupons, or purchase merchandise directly from television. Many SMATV operators offer local and long distance telephone service and Internet access along with video service. In addition, digital technology makes it possible for MMDS operators, who provide video service in only limited areas, to offer two-way services, such as high-speed Internet service and telephony. Sprint and MCI WorldCom have acquired most of the larger MMDS operators with the intent to use the acquired frequencies to provide two-way, non-video communications services.

[6] Telecommunications Act of 1996, Pub.L.No. 104-104, 110 Stat. 56 (1996).

12. Non-cable MVPDs continue to report that regulatory and other barriers to entry limit their ability to compete with incumbent cable operators and to thereby provide consumers with additional choices. Non-cable MVPDs also continue to experience some difficulties in obtaining programming from both vertically integrated cable programmers and unaffiliated programmers who continue to make exclusive agreements with cable operators. In multiple dwelling units ("MDUs"), potential entry may be discouraged or limited because an incumbent video programming distributor has a long-term and/or exclusive contract. Other issues also remain with respect to how, and under what circumstances, existing inside wiring in MDUs may be made available to alternative video service providers.

13. Consumers historically reported that their inability to receive local signals from DBS operators negatively affected their decision as to whether to subscribe to DBS. This year's significant increase in DBS subscribership has been attributed, at least in part, to the authority granted to DBS providers to distribute local broadcast television stations in their local markets by the Satellite Home Viewer Improvement Act of 1999 ("SHVIA") enacted on November 29, 1999.[7] Under SHVIA, DBS operators can offer a programming package more comparable to and competitive with the services offered by cable operators. DirecTV now offers a package of local ABC, CBS, NBC, and Fox affiliates along with a national PBS feed in 38 markets for $5.99 a month. EchoStar offers similar service in 34 markets. Moreover, in the last year, as required by SHVIA, the Commission has adopted rules for satellite companies with regard to mandatory carriage of broadcast signals, retransmission consent, and program exclusivity that closely parallel the requirements for cable service.

14. Our findings as to particular distribution mechanisms operating in markets for the delivery of video programming including the following:

- Cable Systems: Since the *1999 Report*, the cable television industry has continued to grow in terms of subscribership (up to 67.7 million subscribers as of June 2000, a 1.5 percent increase from June 1999), revenues (an approximate 13 percent increase between year end 1998 and year end 1999), audience ratings (non-premium cable viewership rose from a 42 share at the end of June 1999 to almost a 46 share at the end of June 2000), and expenditures on programming (an approximate 12 percent increase in program license fees paid by cable system operators). However, the number of national satellite-delivered video programming services, which had been increasing steadily in recent years, decreased by two networks, from 283 to 281, between June 1999 and June 2000.

- The cable industry remains healthy financially, which has enabled it to invest in improved facilities, either through upgrades or rebuilding. As a result, there have been increases in channel capacity, the deployment of digital transmissions that provide better picture quality than can be offered through analog service, and non-video services, such as Internet access. Cable operators also offer telephony, although the use of integrated facilities remains primarily experimental with limited exceptions.

- Direct-to-Home ("DTH") Satellite Service (DBS and HSD): Video service is available from high power DBS satellites that transmit signals to small DBS dish

[7] SHVIA was enacted as 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.), Pub.L. No. 106-113, 113 Stat. 1501, 1501A-526 to 1501A-545 (Nov. 29, 1999).

antennas installed at subscribers' premises, and from low power satellites requiring larger satellite dish antennas. As reported last year, DirecTV acquired medium power satellite provider PrimeStar. Following a transition period for PrimeStar's subscribers to convert to DirecTV's service, PrimeStar ceased to exist on September 30, 1999. DBS has over ten million subscribers, an increase of approximately 29 percent since the *1999 Report*. Between June 1999 and June 2000, the number of HSD subscribers, measured as the number of HSD users that actually purchase programming packages, declined from 1.8 million to 1.5 million, a decrease of 17 percent, that is likely due to subscribers switching to DBS. DirecTV and EchoStar are among the ten largest providers of multichannel video programming service. In June 2000, DBS represented a 15.4 percent share of the national MVPD market and HSD represented another 1.8 percent of that market.

- Wireless Cable Systems: Currently, the wireless cable industry ("MMDS") provides competition to the cable industry in only limited areas. MMDS subscribership fell from 821,000 subscribers to 700,000 subscribers between June 1999 and June 2000, a decrease of 14.7 percent. With the advent of digital MMDS and the Commission's authorization of two-way MMDS service, it appears that MMDS spectrum will be used to provide video services in limited areas, and that most MMDS spectrum will eventually be used to provide high-speed data services. Wireless cable represented a 0.8 percent share of the national MVPD market in June 2000.

- SMATV Systems: SMATV systems use some of the same technology as cable systems, but do not use public rights-of-way, and focus principally on serving subscribers living in multiple dwelling units ("MDUs"). SMATV subscribership has increased approximately 3.5 percent since the last report, with the industry representing approximately a 1.8 percent share of the national MVPD subscribership as of June 2000.

- Broadcast Television: Broadcast networks and stations are competitors to MVPDs in the advertising and program acquisition markets. They supply video programming directly to the approximately 20 percent of television households that are not MVPD subscribers. Additionally, broadcast networks and stations are suppliers of content for distribution by MVPDs. Since the *1999 Report*, the broadcast industry has continued to grow in the number of operating stations (from 1599 in 1999 to 1663 in 2000) and in advertising revenues ($36.6 billion in 1999, a 5.7 percent increase over 1998). While audience levels continue to decline, the four major television networks still account for a 50 percent share of prime time viewing for all television households. Broadcast television stations continue to deploy digital television ("DTV") service. There are 173 television stations on the air broadcasting DTV signals, and digital simulcast of analog programming continues to increase.

- LEC Entry: The 1996 Act expanded opportunities for LECs to enter the market for the delivery of video programming. In the *1999 Report*, we noted that it appeared that the rate of entry into the video marketplace by LECs might be slowing, even by the most aggressive LECs, and that several LECs had reduced or eliminated their MVPD efforts. This trend continued or accelerated this year.

Most incumbent local exchange carriers are seeking to sell their MVPD facilities, preferring instead to market DBS service to their customers. One notable exception is BellSouth, which continues to pursue a number of methods for providing MVPD service. BellSouth has been the largest LEC investor in MMDS licenses, with its service area covering approximately 3.5 million homes. However, in December 2000, BellSouth announced that it was phasing out this service and transitioning existing subscribers to EchoStar's DBS service. It has acquired 21 cable franchises in its telephone service area with the potential to pass 1.4 millions, provides service in 12 franchise areas, and is negotiating for additional franchises. Previously, Ameritech was the most significant LEC provider of in-region cable service, but recent reports indicate that SBC, its current owner, seeks to sell these cable assets. Verizon, which acquired GTE's 10 competitive and one non-competitive cable franchises, is seeking to sell those cable assets. SNET, now also owned by SBC, currently offers service to 30,000 homes in 29 Connecticut localities, but is seeking permission from the state to discontinue this service. U S West continues to offer video, high-speed Internet access, and telephone service over existing copper lines using very high speed digital subscriber line ("VSDL") in Omaha and Phoenix.

- Open Video Systems: In the 1996 Act, Congress established a new framework for the delivery of video programming -- the open video system ("OVS"). Under these rules, a LEC or other entrant may provide video programming to subscribers, although the OVS operator must provide non-discriminatory access to unaffiliated programmers on a portion of its channel capacity. The Commission has certified 25 OVS operators to serve 50 areas. RCN owns the only operating open video systems and currently serves areas surrounding Boston, New York City, Washington, D.C, and San Francisco. In several areas for which it holds OVS certifications, or portions of these areas, RCN has converted its systems to franchised cable systems. The number of OVS subscribers has remained constant over the last year at approximately 60,000 subscribers. OVS subscribers now represent slightly less than 0.1 percent of all MVPD subscribers.

- Internet Video: Currently, 56 percent of the U.S. population has Internet access. Real-time and downloadable video accessible over the Internet continues to become more widely available and the amount of content also is increasing. Despite the evidence of increased interest in Internet video deployment and use, the medium is still not seen as a direct competitor to traditional video services. Television quality Internet video requires a high-speed broadband connection, which most current broadband providers cannot guarantee. Also, deployment of broadband is far from ubiquitous. However, Internet users continue to download and use software for accessing Internet video and Web sites dedicated to streaming video continue to proliferate.

- Home Video Sales and Rentals: The home video marketplace includes the sale and rental of video cassettes, DVDs, and laser discs. As in past reports, we consider home video sales and rentals part of the video marketplace because they provide services similar to the premium and pay-per-view offerings of MVPDs. Almost 86 percent of all U.S. households have at least one VCR. The number of homes with DVD players has grown rapidly since their introduction into the

market, with the number of homes with DVD players expected to reach between 10 and 12 million by the end of 2000. The newest home video technology, the personal video recorder ("PVR"), was introduced in 1999. A PVR is a device connected to a television set that uses a hard disk drive, software, and other technology to digitally record and access programming. In the last year, TiVo and ReplayTV, the two PVR companies, have joined with MVPDs, equipment manufacturers, advertisers, and programmers to incorporate PVR technology into set-top boxes and develop content specifically for PVRs.

- Electric Utilities: Since the *1999 Report*, several electric and gas utilities have announced, commenced, or moved forward with ventures involving multichannel video programming distribution. Utilities are not yet major competitors in the telecommunications or cable markets, but they generally possess characteristics, such as ownership of fiber optic networks and access to public rights-of-way, that could potentially help them become competitively significant. Moreover, deregulation of utilities, accompanied by the advent of competition, is prompting more utilities to diversify and find new revenue streams. Starpower, a joint venture between RCN and PEPCO, continues to expand the area where it offers voice, video, and high-speed Internet access in the Washington, D.C., area. Last year, we reported that Seren, a wholly-owned subsidiary of Minneapolis-based Northern States Power, offered cable and high-speed data access as an overbuilder in several Minnesota communities. It also offers service in the San Francisco Bay area and plans to expand its service area. Siegecom, funded by Blackstone Capital and a joint venture of Southern Indiana Gas and Electric and Utilicom, is offering bundled voice, video and data access services in Evansville and Newburg, Indiana, and has approached other communities about obtaining franchises. Digital Union, a subsidiary of the local utility in Austin, Texas, plans to overbuild the incumbent cable operator. Braintree, Massachusetts, granted a franchise to the municipal utility and plans to begin cable service by the end of 2000.

15. We also find that:

- Consolidations within the cable industry continue as cable operators acquire and trade systems. The ten largest operators now serve close to 90 percent of all U.S. cable subscribers. However, in terms of one traditional economic measure, national concentration among the top MVPDs has increased since last year, although it remains below the levels reported in earlier years.[8] DBS operators DirecTV and EchoStar rank among the ten largest MVPDs in terms of nationwide subscribership along with eight cable multiple system operators ("MSOs"). As a result of acquisitions and trades, cable MSOs have continued to increase the extent to which their systems form regional clusters. Currently, 44 million of the nation's cable subscribers are served by systems that are included in regional clusters. By clustering their systems, cable operators may be able to

[8] Traditional economic measures (e.g., the Herfindahl-Hirschman Index or HHI) are based on market shares or the squaring of market shares such that large companies are weighed more heavily than small companies. The HHI (and apparent levels of concentration) decline with rising equality among any given number of companies in terms of market shares even if these firms individually have larger shares of the markets.

achieve efficiencies that facilitate the provision of cable and other services, such as telephony.

- The number of satellite-delivered programming networks has decreased by two from 283 in 1999 to 281 in 2000. Vertical integration of national programming services between cable operators and programmers, measured in terms of the total number of services in operation, declined from last year's total of 37 percent to 35 percent this year, continuing a five year trend. In 2000, one or more of the top five cable MSOs held an ownership interest in each of 99 vertically integrated national programming services. Sports programming warrants special attention because of its widespread appeal and strategic significance for MVPDs. The *2000 Report* identifies 75 regional networks, 27 of which are sports channels, many owned at least in part by MSOs. There are also 30 regional and local news networks that compete with local broadcast stations and national cable networks (e.g., CNN).

- The program access rules adopted pursuant to the 1992 Cable Act were designed to ensure that other MVPDs can have access to vertically-integrated satellite delivered programming on non-discriminatory terms. We recognize that the terrestrial distribution of programming, including in particular regional sports programming, could eventually have a substantial impact on the ability of alternative MVPDs to compete in the video marketplace. We will continue to monitor this issue and its impact on the competitive marketplace.

- Cable operators and other MVPDs continue to develop and deploy advanced technologies, especially digital compression techniques, to increase the capacities and to enhance the capabilities of their transmission platforms. These technologies allow MVPDs to deliver additional video options and other services (e.g., data access, telephony, and interactive services) to their subscribers. To access these wide ranging services, consumers use "navigation devices." Pursuant to section 629 of the Communications Act, which is intended to ensure commercial availability of these navigation devices, the Commission adopted rules that required MVPDs to unbundle security from other functions of digital set-top boxes by July 1, 2000. The cable industry reports that cable operators have met this deadline to have digital separate security modules available for consumers. Interface requirements and a certification process for the high-speed cable modems needed to access data services have also been developed. Cable modems are now for sale in selected markets. We expect these developments to increase competition in the market for equipment used by subscribers. In addition, in the last year, interactive television ("ITV") services are beginning to be offered through cable, satellite, and terrestrial technologies. ITV provides or has the potential to provide a wide range of services, including video on demand ("VOD"), e-mail, TV-based commerce, Internet access, and program-related content, using digital set-top boxes and other devices that interface with television receivers (e.g., WebTV).

II. COMPETITORS IN THE MARKET FOR THE DELIVERY OF VIDEO PROGRAMMING

A. Cable Industry

16. This section addresses the performance of franchised cable system operators during the past year.[9] We address five different areas of performance. First, we report on general performance in terms of available basic services, subscriber levels, and viewership. Second, we discuss the cable industry's financial performance, including its revenue, cash flow status, and stock valuations. Third, in the area of capital acquisition and disposition, we examine the amount of funds raised and describe how these funds are being used to upgrade physical plant and to acquire new systems. Fourth, we consider other performance indicators such as system transactions, cable overbuilds,[10] and rates charged by cable operators. Lastly, we address advanced broadband services, including the growth of cable data access, digital broadband services, and broadband telephony.[11]

1. General Performance

17. Since our last report, the cable industry has continued to grow in homes passed,[12] basic cable subscribership,[13] premium service subscriptions,[14] basic cable viewership, basic cable penetration,[15] and

[9] A franchise is defined as an authorization supplied by a federal, state, or local government entity to own or construct a cable system in a specific area. Communications Act §§ 602(9), 602(10), 47 U.S.C. §§ 522(9), 522(10). A cable system operator is defined as "any person or group of persons (A) who provides cable service over a cable system, and directly or through one or more affiliates owns a significant interest in such cable system; or (B) who otherwise controls or is responsible for, through any arrangement, the management and operation of such a cable system." Communications Act § 602(5), 47 U.S.C. § 522(5). *See also* 47 C.F.R. § 76.5(cc).

[10] An "overbuild" occurs when two or more wireline cable television systems directly compete for subscribers in a local video programming delivery market.

[11] The advanced broadband services discussed here include cable telephony and Internet Protocol ("IP") telephony, Internet access through cable modems, digital video, video-on-demand ("VOD") and near-video-on-demand ("NVOD"), and interactive guides/interactive programming.

[12] Homes passed is defined as the total number of households capable of receiving cable television service.

[13] We refer to all cable programming networks offered as a part of program packages or tiers as "basic cable networks." The primary level of cable television service is commonly referred to as "basic service" and must be taken by all subscribers. The content of basic service varies widely among cable systems but, pursuant to the Communications Act, must include all local television signals and public, educational, and governmental access channels and, at the discretion of the cable operator, may include satellite delivered cable programming channels carried on the system. One or more expanded tiers of service, known as Cable Programming Service ("CPS") tiers for purposes of rate regulation, and often known as expanded basic, also may be offered to subscribers. These expanded tiers of service usually include additional satellite delivered cable programming channels and are available for additional monthly fees. Communications Act §§ 623(b)(7), 623(l)(1), 47 U.S.C. §§ 543(b)(7), 543(l)(2).

[14] Premium services are cable networks provided by a cable operator on a per channel basis for an extra monthly fee. Pay-per-view services are cable networks provided by a cable operator on a per program basis. Pay-per-view service is a separate category from premium service. Communications Act §§ 623(b)(7), 623(l)(2), 47 U.S.C. §§ 543(b)(7), 543(l)(2).

[15] Basic cable penetration is defined as the ratio of the number of cable subscribers to the total number of households passed by the system.

channel capacity.[16] Deployment of broadband service offerings also grew during 1999 and the first half of 2000, including increased offerings of digital video, Internet access through cable, interactive cable, and facilities-based broadband telephony.

18. ***Cable's Capacity to Serve Television Households***. The number of U.S. homes with at least one television ("TV households") was reported during the 1998-1999 television season as 99.4 million.[17] During the 1999-2000 television season the number of U.S. TV Households was reported as 100.8 million, and increase of 1.4 percent over the prior year.[18] The number of homes passed by cable was approximately 95.6 million at the end of 1998 and 96.6 million at the end of 1999, and by the end of June 2000 was estimated to be 97.1 million, according to one source.[19] The most widely used industry measurement of cable availability is the number of homes passed expressed as a percentage of TV households. In June 2000, this statistic, homes passed as a percentage of TV households, was 96.6 percent, unchanged from the previous year.[20] Some parties have proposed to use different measures of cable availability.[21] The resulting statistic varies depending on the estimate of homes passed and whether the comparison is based on TV households, all households, all occupied housing units, or all housing units in the United States, as some have suggested.[22] For example, one source estimates the number of homes passed as 91 million homes, an estimate that is lower than the one provided by the source the Commission has used in recent *Reports*.[23] If this estimate for the number of homes passed is compared to

[16] Channel capacity is defined as the maximum number of video channels that a system can carry simultaneously. Video channel capacity can be decreased on any given network simply by using bandwidth for other services such as Internet.

[17] Nielsen Media Research. Nielsen Media Research estimates the number of television households annually, and industry practice is to use this figure throughout the television broadcast season, which begins in September and ends in August of the following calendar year. Thus, the figure for TV households in June 2000 is the same as the figure for December 1999. In App. B, Tbl. B-1, we report the number of television households as of year-end 1999 and June 2000. These figures are from Paul Kagan Associates, and we use these estimates of television households for consistency with the remainder of reported figures in this section.

[18] U. S. Television Household Estimates September 1999, DMA Rankings, Nielsen Media Research.

[19] *See* App. B, Tbl. B-1.

[20] *Id*.

[21] In its comments, NRTC expresses concern that the percentage of homes passed by cable may not be as high as the Commission has reported in the past. Thus, it claims that the reported number misrepresents the actual availability of cable services, particularly among rural Americans. NRTC Comments at iii, and 6-8. NCTA contends that the notion that a large portion of rural America is likely to be unserved by cable now or in the near futures is untrue. It notes that, although it has been costly to serve areas with the lowest density of homes, the cable industry began in rural areas as a community antenna service. It states that the industry remains committed to building out to the lowest density that is economically feasible, a density that continues to become lower over the years. NCTA Reply Comments at 10-11.

[22] NRTC Comments at 7-8. *See also* National Telecommunications and Information Administration, United States Department of Commerce and Rural Utilities Service, United States Department of Agriculture, *Advanced Telecommunications in Rural America, The Challenge of Bringing Broadband Service to All Americans* ("NTIA/RUS Report"), April 2000, at 19, n. 62.

[23] NCTA Web site, http://ncta.cyberserv.com/qs/user_pages/Dev%28statedata%29.cfm *citing* data from Warren Publishing, Inc. Estimates of the number of homes passed by cable are derived from a number of sources and samples and, therefore, the reported variability among estimates is not unexpected.

the number of all housing units, the largest number suggested for this comparison, the estimate of cable availability could be as low as 81 percent.[24]

19. ***Subscribership***. Basic cable television subscribership grew from 66.1 million subscribers at the end of 1998 to 67.3 million subscribers at the end of 1999, an increase of 1.8 percent.[25] It continued to grow to an estimated 67.7 million subscribers by June 30, 2000, a six month increase of approximately 0.6 percent.[26] Basic cable penetration grew between 1998 and 1999, increasing from 69.1 percent at the end of 1998 to 69.7 percent at the end of 1999.[27] Basic cable penetration remained unchanged at 69.7 percent at the end of the first half of 2000.[28] The percentage of TV households subscribing to cable continued to increase, rising to 67.3 percent of all TV households by the end of 1999, and to 67.4 percent by the end of June 2000.[29] The number of homes subscribing to one or more premium cable services increased from 35.3 million homes at the end of 1998 to 35.5 million homes at the end of 1999, an increase of 0.6 percent.[30] For the first half of 2000, premium cable subscribers increased again, reaching 35.8 estimated subscribers, a six month increase of about 0.8 percent. The number of premium services to which homes are subscribing (known as "premium units") has decreased since the end of 1998, declining 8.5 percent by the end of 1999 to 53 units and by June 2000, decreasing to 52.7 units.[31]

20. ***Channel Capacity***. As we have reported in the past, channel capacity has become more difficult to measure since the increased use of digital signal transmission.[32] In October 1999, cable systems with a capacity of 30 or more channels accounted for 85.4 percent of cable systems, or 8,236 systems.[33] Cable systems with channel capacities of 54 channels or more accounted for 22.4 percent of cable systems in October 1999, or 2,164 systems.[34] In addition, as of October 1999, 79 cable systems had a capacity of 91 or more channels.[35] In October 2000, it was reported that cable systems with a capacity of 30 or more channels accounted for 86.6 percent of cable systems.[36] This represents 8,032 systems

[24] NRTC Comments at 6-8; NTIA/RUS Report at 19, n. 62. Using a lower numerator and a higher denominator results in a lower percent. *See also* NCTA Reply Comments at 10.

[25] *See* App. B, Tbl. B-1.

[26] *Id.*

[27] *Id.*

[28] *Id.* Basic cable penetration is defined as the ratio of the number of cable subscribers to the total number of households passed by the system.

[29] *Id.* The percentage of TV households subscribing to cable is the ratio of the number of cable subscribers to the total number of households with at least one television.

[30] *See* App. B, Tbl. B-2.

[31] *Id.* This decrease is attributed to a decrease in the number of services classified by the source as “premium.”

[32] *See 1998 Report*, 13 FCC Rcd at 24295, n. 34.

[33] *See* App. B, Tbl. B-3.

[34] *Id.*

[35] *Id.*

[36] *Id.* While the available channel capacity data for 2000 may not be final, we continue to use the same sources we have in the past for comparison purposes. Use of October to October data is consistent with our *1997, 1998, and 1999 Reports*, and is the method Warren Publishing, Inc., uses to report channel capacity system statistics. Warren Publishing reports the percentage of all systems polled. For the purposes of this *Report*, the figures have been recalculated to report the percentage of systems responding to the Warren poll (*i.e.*, we subtract out the number of systems "not available" for response).

nationwide.[37] Systems with channel capacities of 54 channels or more accounted for 24.2 percent of cable systems in October 2000, or 2,247 systems.[38] And as of October 2000, over 100 cable systems had a capacity of 91 or more channels.[39]

21. In October 1999, 98.6% percent of all cable customers subscribed to systems with capacities of 30 channels or more.[40] Moreover, 64.2 percent of all subscribers were served by systems with capacities of 54 or more channels in October 1999.[41] More than 4.7% of all cable subscribers subscribed to systems with channel capacity of 91 channels or more.[42] In October 2000, 99 percent of all cable customers subscribed to systems with capacities of 30 channels or more, and 68.5 percent of all subscribers were served by systems with capacities of 54 or more channels in October 2000.[43] In addition, more than 6.5 percent of all subscribers are served by systems with capacities of 91 or more channels.[44]

22. ***Viewership***. As reported last year, viewership shares of non-premium cable networks have continued to grow over the past decade, while viewership shares of broadcast television stations have steadily declined. This trend has continued over the past year. Audience share statistics for Monday through Sunday, 24 hours a day,[45] show that non-premium cable audience shares rose 7.8 percent from an average 42.2 share[46] from July 1998 through June 1999, to an average 45.5 share between July 1999 and June 2000.[47] Monday through Sunday, 24 hours a day, broadcast television audience shares decreased 2.1 percent from an average 60.9 share from July 1998 through June 1999, to an average 59.6 share between July 1999 and June 2000.[48]

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[37] *See* App. B. Tbl. B-3.

[38] *Id.*

[39] *Id.*

[40] *See* App. B, Tbl. B-4. Use of October to October data is consistent with our *1997, 1998, and 1999 Reports*, and is the method Warren Publishing, Inc., uses to report channel capacity system statistics. Warren Publishing reports the percentage of all systems polled. For the purposes of this *Report*, the figures have been recalculated to report the percentage of systems responding to the Warren poll (*i.e.*, we subtract the number of systems "not available" for response).

[41] *See* App. B. Tbl. B-4.

[42] *Id.*

[43] *Id.*

[44] *Id.*

[45] The audience statistics reported here are Nielsen Media Research measurements of television viewing 24 hours a day for an entire week (*i.e.*, Monday through Sunday).

[46] A share is the percent of all households using television during the time period that are viewing the specified station(s) or network(s). The sum of reported audience shares exceeds 100 percent due to multiple set viewing.

[47] Nielsen Media Research, *Total Day 24 hours 6 am - 6 am: Total US Ratings By Viewing Source*, Oct. 12, 2000. Nielsen reports non-premium, basic cable viewership as "Ad Supported Cable" and "All Other Cable." Premium services are classified as "Premium Pay."

[48] Nielsen Media Research, *Total Day 24 hours 6 am - 6 am: Total US Ratings By Viewing Source*, Oct. 12, 2000. "Broadcast" shares include network affiliates, independent, and public broadcast stations.

23. ***Cable Networks***. In 1999, the number of basic cable networks increased from 139 to 147, a 5.8 percent increase.[49] The number of premium networks increased 139 percent in 1999 from 18 at the end of 1998 to 43 at the end of 1999.[50] The number of pay-per-view ("PPV") networks decreased 11 percent in 1999 from ten to nine networks.[51] Half-year figures for 2000 are not available.

24. ***Programming Costs***. Programming networks incurred expenses of approximately $5.8 billion for producing and acquiring programming in 1999, up 16.2 percent from 1998 expenses of $4.9 billion.[52] Reported estimates indicate that these programming network expenses will total $6.4 billion by year-end 2000, a 10.3 percent increase over 1999.[53] License fees paid by cable system operators to basic cable network programmers increased 12.2 percent, from approximately $4.9 billion in 1998 to $5.5 billion in 1999.[54] Analysts estimate that in 2000 fees will increase by an additional 10.9 percent to reach $6.1 billion.[55]

25. Other programming expenses incurred by cable operators include copyright fees for broadcast signal carriage pursuant to Section 111 of the Copyright Act.[56] As of December 12, 2000,[57] copyright fees paid by cable system operators for broadcast signal carriage for the period January 1, 1999, to June 30, 1999, were $55.6 million.[58] For the period July 1, 1999, through December 31, 1999, fees collected were $51.6 million, and for the period January 1, 2000, to June 30, 2000, fees collected were $53.1 million.[59]

2. Financial Performance

26. Data concerning cable industry revenue, cash flow, and stock prices indicate that the cable industry remained strong in 1999 and in the first half of 2000.[60]

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[49] These statistics regarding types of cable networks are from *NCTA Cable Television Developments*, Spring/Summer 2000. These totals differ from those reported in the Vertical Integration Section of this report. In that section, the information on cable networks is from *NCTA Developments* and additional sources. *See* App. B, Tbl. B-5.

[50] *Id*.

[51] *Id.*

[52] Paul Kagan Assocs., Inc., *Basic Cable Network Economics (1995-2010)*, Cable Program Investor, June 16, 2000, at 7.

[53] *Id.*

[54] *Id.* License fees are the fees charged by a cable network to allow an operator to deliver the network's programming. License fees reported here do not include superstation license fees, common carrier payments, and copyright fees.

[55] *Id.*

[56] Copyright Act, 17 U.S.C. § 111 *et seq.*

[57] Copyright fees, though technically due on a specific date, are collected on a rolling basis. We report the most current figures available.

[58] Copyright Office, Library of Congress, *Licensing Division Report of Receipts*, Dec. 12, 2000. Date of "collection" indicates the date the Copyright Office has deposited payments made by cable operators. Payments are due within a certain time frame around the copyright period, however, operators submit payments on a continuing basis.

[59] *Id.*

[60] *See* Paul Kagan Assocs., Inc., *Cable and DBS Stocks: The Year in Review*, Cable TV Financial Databook 2000, Aug. 2000, at 98.

27. ***Cable Industry Revenue***. Annual cable industry revenue grew 12.5 percent in 1999 over 1998, reaching $36.7 billion.[61] By the end of 1999, revenue per subscriber grew 10.3 percent to $550.97 per subscriber per year, or $45.91 per subscriber per month.[62] Analysts estimate that 2000 year-end total revenue will reach $41.7 billion, an estimated 13.6 percent increase over 1999,[63] and that revenue per subscriber per year will reach approximately $616.56, or $51.38 per subscriber per month.[64]

28. When cable system revenue is classified by source, advanced video service revenue (analog and digital) show the greatest amount of growth in 2000, as was also the case in 1999.[65] Revenue from advanced video services increased 337.6 percent in 1999, reaching almost $2 billion, as operators continued to roll out new services.[66] Analysts estimate that revenue from advanced services will more than double between year-end 1999 and year-end 2000, reaching an estimated $4.2 billion by the end of 2000.[67] In the more traditional revenue-generating sectors of cable, the pay-per-view sector showed the greatest increase, generating almost $1 billion in annual revenue in 1999, a 52 percent increase over the previous year.[68] Industry analysts predict that pay-per-view will generate an estimated $1.5 billion in revenue in 2000, an increase of almost 60 percent.[69] Equipment and installation revenue increased 7.3 percent in 1999, from $2.6 billion in annual revenue in 1998 to a little more than $2.8 billion in 1999.[70] Industry analysts predict this revenue sector will increase to an estimated $3 billion by year-end 2000.[71] In 1999, home shopping revenue declined by 1.1 percent and revenue from premium channels decreased by 1.9 percent.[72] Annual revenue from local advertising increased from $1.8 billion in 1998 to $2.7 billion in 1999, a 45.1 percent increase, and is expected to increase 16.5 percent to $3.1 billion by year-end 2000.[73] Revenue from the basic service tier ("BST") and from the cable programming service tier ("CPST") combined grew from $21.8 billion in 1998 to $23.1 billion in 1999, a 6 percent increase, and is expected to increase to $24 billion by year-end 2000.[74]

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[61] *See* App. B, Tbl B-6.

[62] *Id.*

[63] *Id.*

[64] *Id.*

[65] The "advanced video services" category includes both analog video services and digital video services. Advanced analog services provide users with certain two-way capabilities such as pay-per-view ("PPV") and near-video-on-demand ("NVOD"). Digital video services can provide superior video picture quality and increased channel capacity. Both digital and advanced analog services require the use of a set-top box. *See also* fn. 11 *supra*.

[66] *See* App. B, Tbl. B-6.

[67] *Id.*

[68] *Id.* The increase in revenues attributed to PPV is likely the result of increased sales, rather than increased rates. For example, in 1999, pro wrestling increased in popularity and Mike Tyson returned to boxing. In addition increases in digital video services provided customers more movie choices.

[69] *See* App. B, Tbl. B-6.

[70] *Id.*

[71] *Id.*

[72] *Id.*

[73] *Id.*

[74] *Id.* Basic cable rates are regulated at the local level. CPST rate regulation ended in March 1999. *See* 47 U.S.C. § 543 (c)(3), (c)(4).

29. ***Cable Industry Cash Flow***. Cash flow is used to assess the financial position of cable firms. Cash flow is generally expressed as "EBITDA" (earnings before interest, taxes, depreciation, and amortization). Financial analysts reported that industry-wide cash flow increased 6.8 percent between the end of 1998 and the end of 1999, from $14.6 billion to $15.6 billion.[75] Cash flow will increase an estimated 10 percent, reaching $17.2 billion by year-end 2000.[76] In 1999, the cable industry generated $233.88 in annual cash flow per subscriber, $8.01 higher than the $225.87 per subscriber generated in 1998.[77] Analysts estimate that in 2000, cash flow per subscriber per year will increase by $19.59, reaching $253.47.[78] The ratio of cash flow to revenue ("cash flow margin") decreased from 45.2 percent in 1998 to 42.4 percent in 1999, and is expected to decrease again to 41.1 percent by year-end 2000.[79]

30. ***Stock Prices***. Cable stock values grew more modestly in 1999 and 2000 than in prior years.[80] This is due in part to investors' eagerness for a return on investments made over the past several years, and increasing evidence of competition.[81] For example, between February and May 2000, cable stocks stagnated amid increasing visibility of video competition from DBS, head-to-head overbuilders, and LECs providing a competitive data service product.[82] Other factors contributing to the slow growth of cable stock values in 1999 and 2000 include psychological factors relating to rising interest rates and overall negative market conditions.[83]

3. Capital Acquisition and Disposition

31. ***Industry Financing***. The cable industry has typically relied on combinations of private and public financing, with the exact distribution of these combinations varying greatly from year to year. These year-to-year fluctuations in financing sources appear to be based on the availability of acceptable financing rates through private investors or capital lending institutions.

32. Between January and June 1999, the cable industry acquired approximately $2.2 billion in public equity offerings (i.e., sale of stock), $27 in private equity (i.e., financing from individuals, private corporations, venture capital firms and investment banks), $13.6 billion in private debt (i.e., banks and other borrowings), and $8.8 billion in public debt (i.e., sale of public bonds).[84] By year-end, the cable

[75] *See* App. B, Tbl. B-6.

[76] *Id.*

[77] *Id.*

[78] *Id.*

[79] *Id.* Cash flow margin is a commonly used financial analysis tool for determining a cable operator's operating efficiency, profitability, and liquidity.

[80] *See* Dennis H. Leibowitz, *Media and Communication Statistics: Monthly Reviews*, Donaldson Lufkin & Jenrette, Nov. 11, 1999-Sept. 13, 2000, at 1; Paul Kagan Assocs., Inc., *Cable and DBS Stocks: The Year in Review*, Cable TV Financial Databook 2000, Aug. 2000, at 97.

[81] *Id.*

[82] Dennis H. Leibowitz, *Media and Communication Statistics: Monthly Reviews*, Donaldson Lufkin & Jenrette, Mar. 8, 2000, Apr. 10, 2000, May 10, 2000, and June 8, 2000, at 1. *See* ¶¶ 125, 128 *infra* for information on LEC data services.

[83] Dennis H. Leibowitz, *Media and Communication Statistics: May Review*, Donaldson Lufkin & Jenrette, June 8, 2000; Paul Kagan Assocs., Inc., *Cable and DBS Stocks: The Year in Review*, Cable TV Financial Databook 2000, Aug. 2000, at 97.

[84] Paul Kagan Assocs., Inc., *June 1999 Cable Financing Snapshot*, Cable TV Finance, June 30, 2000, at 8.

industry had obtained approximately $7.6 billion in public equity offerings, $5.4 billion in private equity financing, and the remaining $16 billion in public debt markets.[85] Between January 2000 and June 2000, the industry acquired $225 million in private debt, $815 million in public debt, and $380 million in public equity offerings.[86]

33. ***Capital Expenditures/Capital Investment***. In 1999, the cable industry spent a total of $10.6 billion on the construction of new plant, upgrades, rebuilds, new equipment, and maintenance of new and existing equipment.[87] This represents an 89.3 percent increase over the $5.6 billion spent in 1998 for investments in plant and equipment, and for the expense of maintaining these investments.[88] Analysts expect that operators will spend an estimated $12.4 billion in 2000, an increase of 17 percent over 1999.[89] Of the $10.6 billion spent in 1999, approximately $1 billion was for maintenance expense, $500 million for new builds,[90] $2.5 billion for rebuilds,[91] $4.5 billion for upgrades,[92] and $2.1 billion for equipment.[93] An industry association notes that cable operators have invested nearly $36 billion in upgrades since enactment of the 1996 Act.[94]

34. Over the last several years, many of the large MSOs have invested more than a half a billion dollars each on maintenance, upgrades, rebuilds, and new services.[95] In the case of Time Warner, MediaOne, and Comcast, some or all of the expenditures in 1999 and the first half of 2000 were associated with commitments made by those MSOs pursuant to social contracts with the Commission.[96]

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[85] *See* App. B, Tbl., B-7.

[86] *Id.*

[87] Paul Kagan Assocs., Inc., *Estimated Capital Flows in Cable TV*, Cable TV Finance, June 29, 2000, at 2.

[88] *Id.* The 1998 data may not agree with data for the same date(s) in our *1999 Report* because the data have been revised by the source.

[89] Paul Kagan Assocs., Inc., *Estimated Capital Flows in Cable TV*, Cable TV Finance, June 29, 2000, at 2.

[90] "New builds" are the construction of new cable plant where none existed before, primarily newly built homes.

[91] "Rebuilds" are improvements to existing systems that do not retain much of the old system plant and equipment. Instead, they consist of mostly new plant and equipment.

[92] "Upgrades" are improvements to existing cable systems that do not require the replacement of the entire existing plant and equipment.

[93] Paul Kagan Assocs., Inc., *Estimated Capital Flows in Cable TV*, Cable TV Finance, June 29, 2000, at 2.

[94] NCTA Comments at 5.

[95] Cable operators continue to rebuild and upgrade their systems to increase channel capacity and to develop facilities for advanced services.

[96] The social contract with Time Warner committed that MSO to spend $4 billion on upgrades over a five-year period and to provide 100 percent of its subscribers with 550 MHz service and 50 percent of its subscribers with 750 MHz service. *Social Contract for Time Warner*, 11 FCC Rcd 2788 (1995). Time Warner's annual social contract implementation report indicates that the MSO is ahead of schedule and fully expects to meet or exceed all its obligations under the Social Contract by the end of 2000. Letter from Stuart F. Feldstein to Deborah A. Lathen, Chief, Cable Services Bureau, March 30, 2000, attaching Time Warner Cable Social Contract Progress Report 1999. The social contract with MediaOne commits that MSO to spend $1.7 billion on upgrades over a four-year period ending December 31, 2000, and also to provide 100 percent of its subscribers with 550 MHz service and 50 percent of its subscribers with 750 MHz service. *Social Contract for Continental Cablevision, Inc.* (subsequently MediaOne), 13 FCC Rcd 11118 (1996). By the end of 1999, MediaOne had already invested $3.58 billion during the contract period. MediaOne reports that it has surpassed its financial commitment under the social contract, and should exceed its original commitment by $2.67 billion by the end of 2000. Letter from Margaret A. Sofio, Vice (continued…)

For example, Time Warner reported capital expenditures of about $2.1 billion in 1999 and is expected to spend $1.8 billion in 2000.[97] Prior to its acquisition by AT&T, MediaOne spent approximately $1 billion in 1999 upgrading and rebuilding its systems.[98] Comcast reported cable-related capital expenditures of $490 million in 1999, and is expected to spend approximately $1.2 billion by the end of 2000.[99] AT&T's cable unit (without MediaOne) reported capital expenditures of $2.4 billion in 1999 and analysts expect AT&T's cable unit (including MediaOne) to spend nearly $5.2 billion in total capital in 2000, $3.7 billion of which is expected to go toward rebuilding and upgrading systems.[100] Adelphia reported capital expenditures of approximately $850 million in 1999 and is expected to spend approximately $830 million by year-end 2000.[101] Cox reported capital spending of $1.3 billion in 1999 and $914 million in the first half of 2000.[102] Cox is expected to spend approximately $1.8 billion by year-end 2000.[103]

4. Other Performance Indicators

35. ***Cable System Transactions***. The number of mergers, acquisitions, and exchanges between MSOs has fluctuated over the past few years. The number of systems sold decreased between 1998 and 1999 from 119 to 90 systems.[104] From January 2000 through June 2000, there were 22 transactions.[105] The total number of subscribers affected by system transactions and the average size of systems sold (measured by the number of subscribers per system) continues to vary greatly from year to year.

(…continued from previous page)
President – Law, MediaOne Group, to Magalie Roman Salas, Secretary, Federal Communications Commission, March 31, 2000, attaching MediaOne Social Contract Annual Progress Report, 1999. The third MSO, Comcast reported that as of March 31, 2000, it continues to provide services and materials and perform upgrades in accordance with the terms of the Social Contract. *Social Contract for Comcast Cable Communications, Inc.*, 13 FCC Rcd 3612 (1997); Letter from Peter H. Feinberg, Attorney, Dow, Lohnes & Albertson, PLLC, to Magalie Roman Salas, Secretary, Federal Communications Commission, March 31, 2000, attaching Comcast Cable Communications 1999 Annual Social Contract Progress Report.

[97] Richard Bilotti, Benjamin Swinburne, and Megan Lynch, *Industry Review: The Marquis de Broadbandbur*y, Morgan Stanley Dean Witter, Oct. 3, 2000, at 47 ("Morgan Stanley Dean Witter – Broadbandbury").

[98] Letter from Margaret A. Sofio, Vice President – Law, MediaOne Group, to Magalie Roman Salas, Secretary, Federal Communications Commission, Mar. 31, 2000, attaching MediaOne Social Contract Annual Progress Report, 1999.

[99] Richard Bilotti, Benjamin Swinburne, and Megan Lynch, *Comcast: Second-Quarter Results and Fiscal Year-End Preview*, Morgan Stanley Dean Witter, Aug. 16, 2000, at 4; Dennis Leibowitz, *Broadcasting, Cable and Wireless: May 1- May 5, 2000*, Donaldson, Lufkin & Jenrette, May 5, 2000, at 12.

[100] Richard Bilotti, Benjamin Swinburne, Gary Lieberman, and Marc Nabi, *1Q00 Review/2Q00 Preview: Party on at the Oligopoly Lounge*, Morgan Stanley Dean Witter, Apr. 4, 2000, at 34; Morgan Stanley Dean Witter – Broadbandbury at 65.

[101] Morgan Stanley Dean Witter – Broadbandbury at 47; Richard Bilotti, Benjamin Swinburne, and Megan Lynch, *Adelphia: Coudersport Cocktail*, Morgan Stanley Dean Witter, June 20, 2000, at 45.

[102] Morgan Stanley Dean Witter – Broadbandbury at 47 and 112.

[103] *Id.* at 112.

[104] This includes all systems bought and sold. *See* App. B, Tbl. B-8.

[105] Some transactions recorded on this table have been announced to the public but may not actually take place. Most recorded transactions do take place, although a few each year do not. *See* App. B, Tbl. B-8.

36. While the number of subscribers affected by system transactions decreased by almost 13 percent between 1998 and 1999, from 22.4 million to 19.5 million, the system size average increased 14 percent from approximately 190,000 subscribers per system sold in 1998 to approximately 217,000 subscribers per system sold in 1999.[106] Between January and June 2000, the number of subscribers affected by system transactions reached over 8.7 million with an average number of subscribers per system transaction at approximately 396,000, a half-year, per-system increase of over 80 percent.[107] The total dollar value of transactions increased between 1998 and 1999 from $64.6 billion at year-end 1998 to 75.8 billion at the end of 1999.[108] The total dollar value of transactions between January 2000 and June 2000 was approximately $55 billion.[109]

37. ***Overbuilding***. Between 1995 and year-end 1999, competing franchises have been awarded for service to 369 communities in 34 states, with the potential to serve more than 18.5 million homes.[110] However, not all of the franchises awarded are currently operational. After a franchise is awarded, it can take a significant amount of time for the franchisee to build. An indication that an overbuilt system may be in operation occurs when an incumbent provider asks the Commission to determine that effective competition exists within its service area.[111] Such a determination exempts the cable operator from regulation of its rates. As of July 2000, the Commission has granted petitions for determination of effective competition status on the basis of overbuild competition for approximately 330 individual communities.

38. As we have discussed in recent reports, the most notable overbuilders include Ameritech, now owned by SBC, Knology, RCN, and BellSouth.[112] In the *1999 Report*, we indicated that Ameritech, now SBC, had suspended deployment of new operations.[113] Reports indicate that SBC may now be seeking to sell its systems, though no final decision has been announced.[114] RCN had approximately 350,000 video subscribers and about 830,000 homes passed as of June 2000.[115] However, as with most overbuilders, RCN has not built out all of the homes for which it holds franchise awards. As of year-end 1999, RCN had an estimated 4.5 million homes under franchise and, as of June 2000, RCN held open video system ("OVS") certification for over 15 million homes.[116] In early 2000, Microsoft co-founder Paul Allen invested $1.65 billion in RCN through his holding company Vulcan Ventures, which also

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[106] *Id.*

[107] *Id.*

[108] *Id.*

[109] *Id.*

[110] Paul Kagan Assocs., Inc., *Cable TV Franchising Competition*, 1995-1999 *Franchise Awards*, Cable TV Financial Databook 2000, Aug. 2000, at 90-94. This includes 91 municipally operated cable systems as of year-end 1999. *See* Paul Kagan Assocs., Inc., *Municipal Cable Systems*, Cable TV Financial Databook 2000, Aug. 2000, at 95.

[111] 47 U.S.C. § 543 (l)(1); 47 C.F.R. § 76.905 (b).

[112] *1999 Report*, 15 FCC Rcd at 1037-42 ¶ 123-131. *See also* ¶¶ 121-129 *infra*.

[113] *1999 Report*, 15 FCC Rcd at 1037 ¶ 123. *See also* ¶¶ 121-129 *infra*.

[114] John M. Higgins, *Ameritech to Sell Cable*, Broadcasting & Cable, March 13, 2000, at 6; *See also* ¶¶ 121-129 *infra*.

[115] RCN Corp., *RCN Reports Strong Second Quarter Results* (press release), July 31, 2000.

[116] Dennis H. Leibowitz, *Current Trends in Broadcasting, Cable, Advertising, Publishing, and Entertainment, February/March 2000*, Apr. 18, 2000, at 10-11; RCN Corp., *RCN Reports Strong Second Quarter Results* (press release), July 31, 2000. *See also* ¶¶ 121-129 *infra.*

owns cable operator Charter Communications.[117] This investment represented the first significant investment in a cable overbuilder made by an incumbent franchised cable operator.[118] Knology reported approximately 97,000 video subscribers and 335,000 homes passed as of June 2000.[119] Analysts report that Knology has approximately 550,000 homes under franchise, and continues to seek new franchise agreements.[120] BellSouth currently holds 21 franchises to provide cable overbuild service, and is providing service in 12 of these franchise areas with approximately 1.4 million homes passed.[121]

39. As we have done in recent reports, we again provide a study of selected areas where incumbent cable operators face head-to-head effective competition.[122] Our case-by-case analysis shows that such competition often results in lower prices, additional channels, improved services, or additional non-video services.[123]

5. Provision of Advanced Broadband Services

40. Cable operators continue to upgrade their networks at a rapid pace in order to add new service offerings. This year the industry began to see the commercial deployment of such new service offerings as video-on-demand and increased trials of telephony over cable systems.

41. ***Digital Video Services***. As discussed in last year's *Report,* cable systems using digital signal transmission can provide customers with superior video picture quality,[124] increased programming options,[125] and more advanced service offerings[126] than customers can receive from cable systems using standard analog signal transmission.[127] Most major cable operators offer digital video services.[128] All

[117] RCN Comments at 6.

[118] Vulcan Ventures holds 96 percent of cable operator Charter Communications.

[119] Knology, Inc., *Knology Reports Continued Strong Growth in 2nd Quarter 2000* (press release), Aug. 10, 2000.

[120] Dennis H. Leibowitz, *Current Trends in Broadcasting, Cable, Advertising, Publishing, and Entertainment, February/March 2000,* Apr. 18, 2000, at 11.

[121] Bell South Comments at 2; s*ee also* ¶¶ 121-129 *infra*.

[122] *See* ¶¶ 213-234 *infra.*

[123] *See* ¶¶ 235-231 *infra.*

[124] Digital video offers superior video picture quality because it is more likely to maintain signal integrity than analog video. As analog video signals travel from the cable operator to the subscriber, signals risk interference from equipment leaks or other hardware factors. Digital signals, on the other hand, are composed of discrete codes of information and carry error-correcting codes that can regenerate any lost data. Analog signals can be amplified, but little can be done to correct any distortion that may occur to the signal through transmission.

[125] In allocating bandwidth to digital video, an operator must determine the number of analog or otherwise unused channels to devote to digital video. In attempting to maximize the number of digital program channels per available bandwidth, operators have tried to maximize digital compression ratios.

[126] Advanced video service offerings enabled by digital signal transmission include electronic programming guides, video-on-demand, and interactive television ("ITV") which can include basic Internet-like functionality, such as real-time text messaging ("chat"), and e-mail.

[127] *See 1999 Report,* 15 FCC Rcd at 1002 ¶ 52.

[128] Jessica Rief Cohen and Nathalie Brochu, *Stocks Remained Under Pressure in 2Q00, Despite Solid Fundamentals*, Merrill Lynch, July 28, 2000, at 17 ("Merrill Lynch – 2Q00"). Analysts note that Cablevision has yet to roll out a digital product due to the strength of its advanced analog product, but that it is looking to rollout to 5,000 trial subscribers by the end of 2000. *Id.*

operators offering digital video offer an increased number of basic and premium networks on a digital tier for an additional cost. Some are beginning to incorporate such advanced programming options as video-on-demand ("VOD") or near video-on-demand ("NVOD") into their digital tier. Such services allow subscribers to order pay-per-view movies at any time or on a time-staggered basis from a library of options. In addition, many cable operators are beginning to co-market personal video recorder ("PVR") services. As we discussed last year, PVRs provide VCR-like functionality including fast-forward, rewind, and pause.[129]

42. Subscriber reception of digital video requires a set-top device to decompress and decode incoming digital signals and to translate the signals into the analog signals used by current television sets. In addition, digital set-top boxes can allow cable operators to offer such additional services as PVRs.[130] Presently, cable operators provide set-top devices to the consumer for a monthly fee, though as we reported last year, the Commission anticipates that these devices also will become available to consumers through retail outlets.[131] However, certain difficulties have delayed retail distribution. The Commission is currently assessing the effectiveness of its navigation devices rules to determine whether changes are required to meet the statutory objective of competition in the navigation devices market.[132] Cable Television Laboratories ("CableLabs") continues to work on its effort to resolve technical issues through its OpenCable project.[133] As reported last year, CableLabs was founded in 1988 by a consortium of cable operators in order to provide a clearinghouse for technological information for cable-related devices.[134] CableLabs created the OpenCable project in 1997 to enable distribution of digital set-top boxes competitively at the retail level by producing a set of interface specifications that define technical specifications.[135] OpenCable reached its initial goal of a common hardware platform in late June, 2000.[136]

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[129] *See 1999 Report*, 15 FCC Rcd at 1035 ¶ 119; *see also* ¶ 118 *infra*.

[130] *See* ¶¶ 118, 206 *infra.*

[131] *See 1999 Report*, 15 FCC Rcd at 1002-03 ¶ 53. Section 629 of the Communications Act requires that the Commission adopt regulations to assure the commercial availability of navigation devices. In 1998, the Commission adopted rules to implement Section 629. The purpose of Section 629 and the rules adopted thereunder is to assure consumers the opportunity to purchase navigation devices from sources other than their MVPD service provider. *See* 47 U.S.C. §549; *see also Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Report and Order, 13 FCC Rcd 14775 (1998)*; Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Docket 97-80, Order on Reconsideration, 14 FCC Rcd 7596 (1999).

[132] *Implementation of Section 304 of the Telecommunications Act of 1996 - Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Further Notice of Proposed Rule Making and Declaratory Ruling, 15 FCC Rcd 18199 (2000).

[133] CableLabs, *CableLabs Selects Three Firms to Serve as Primary Authors on Key OpenCable Software Specifications* (press release), Sept. 14, 2000.

[134] *1999 Report*, 15 FCC Rcd at 1004 ¶ 57; Cable Television Laboratories, Inc. ("CableLabs"), *What is CableLabs?*, http://www.cablelabs.com/start_here.

[135] *See* CableLabs, *CableLabs Selects Three Firms to Serve as Primary Authors on Key OpenCable Software Specifications* (press release), Sept. 14, 2000. *See also* CableLabs, *Open Letter to Companies Interested in Participating in OpenCable* (Request for Information), 1997. The goal of CableLabs is to attain interoperable digital set-top boxes manufactured by multiple vendors for sale at the retail level. This would allow consumers to purchase set-top boxes at retail outlets, rather than being required to lease the set top from the cable provider, as is current practice. Further, consumers will be able to use the same set top box even if they change cable provider. CableLabs, *CableLabs Selects Three Firms to Serve as Primary Authors on Key OpenCable Software Specifications* (press release), Sept. 14, 2000.

OpenCable now seeks to enable interoperable interactive services and applications that can be offered by any cable system in North America through a common "middleware" approach.[137] CableLabs has been evaluating responses to the OpenCable Software Request for Protocol ("RFP") issued in September 1999.[138]

43. As of year-end 1999, there were more than 4.5 million digital cable subscribers industry-wide.[139] As of June 2000, it is estimated that there were 5.5 million subscribers, an increase of 22 percent in just six months.[140] Analysts predict that by year-end 2000 there will be between 8.5 million and 9 million digital video subscribers in the U.S.[141]

44. Cox is marketing its digital product in 16 markets and has approximately 560,000 subscribers.[142] In September 2000, Cox began to offer VOD service for selected customers in San Diego, California. [143] As of August 2000, Comcast provided approximately one million subscribers with digital cable service, and expects to offer that service to approximately 1.25 million customers the end of 2000.[144] Comcast offers digital video service to more than 90 percent of its subscribers.[145] With its premier digital service offering, "Comcast Digital Plus" Comcast offers customers a total of 250 channels with 45 premium channels.[146] Comcast anticipates that video-on-demand will be introduced in 2001.[147] As of June 2000, Adelphia had approximately 342,000 digital video subscribers with a target of 800,000 digital video subscribers by year-end 2000.[148] As of year-end 1999, Time Warner offered digital video service in 30 of its systems with nine more systems anticipated by year-end 2000.[149] Time Warner has 430,000

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[136] CableLabs, *CableLabs Selects Three Firms to Serve as Primary Authors on Key OpenCable Software Specifications* (press release), Sept. 14, 2000.

[137] *Id.* "Middleware" is the operating software used on a set-top box device to allow applications to run. "Middleware" is similar to the operating systems on a personal computer.

[138] *Id.*

[139] Merrill Lynch – 2Q00 at 17.

[140] *Id.*

[141] *Id*. *See also* Morgan Stanley Dean Witter – Broadbandbury at 14.

[142] Cox Communications, Inc., *Cox Communications Updates Investors on Successful Delivery of Advanced Broadband Communications Services* (press release), June 1, 2000; Cox Communications, Inc., *Cox Communications Reaches Milestone of 1 Million New Service Subscriptions* (press release), July 31, 2000.

[143] Cox Communications, Inc., *Cox Communications Launches Movies-On-Demand Service in San Diego* (press release), Sept. 25, 2000.

[144] Comcast Reply Comments at 7-8.

[145] *Id.* at 8.

[146] *Id.* at 7.

[147] *Id.* at 9.

[148] Richard Bilotti, Benjamin Swinburne, and Megan Lynch, *Adelphia: Second-Quarter Results and Fiscal Year-End Preview*, Morgan Stanley Dean Witter, Oct. 3, 2000, at 5-6; Dennis Leibowitz, *Broadcasting, Cable and Wireless: August 14-August 21, 2000*, Donaldson, Lufkin & Jenrette, Aug. 21, 2000, at 2.

[149] Paul Kagan Assocs., Inc., *Digital Cable Deployments*, The Cable TV Financial Databook 2000, Aug. 2000, at 84-89.

digital video subscribers.[150] As of March 31, 2000, AT&T had 1.9 million digital video subscribers, and analysts expect that by year-end 2000 AT&T will have over three million digital video customers.[151] Charter Communications offers digital cable in 23 states to an estimated 375,000 subscribers.[152] As part of its digital video service, Charter offers a video-on-demand product in some of its service areas, with broader deployment expected next year.[153]

45. ***Internet and High-Speed Data Services***. Most American households still access the Internet using analog telephone dial-up modems at speeds of less than 56 kilobits-per-second ("kbps.")[154] As of year-end 1999, 98.2 percent of all Internet households were accessing the Internet using dial-up modems.[155] It is projected that telephone dial-up will remain the principal means of accessing the Internet until about 2004, when it is expected that only 49.7 percent of Internet households will use dial-up access, with the remaining 50.3 percent accessing the Internet through broadband facilities.[156]

46. As we reported in past years, the most popular way to access the Internet over cable broadband infrastructure is through the use of a cable modem and personal computer, with information transmitted over the cable system's wires.[157] Cable modems allow users to access the Internet at speeds that range from fifty to several hundred times faster than telephone dial-up.[158]

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[150] *Id.*

[151] Laura Martin and Daniel P. Reingold, *Focus on Value: AT&T Cable*, Credit Suisse First Boston, June 21, 2000, at 7.

[152] Paul Kagan Assocs., Inc., *Digital Cable Deployments*, The Cable TV Financial Databook 2000, Aug. 2000, at 84-89; Richard Bilotti, Benjamin Swinburne, and Megan Lynch, *Charter: Second-Quarter Results and Fiscal Year-End Preview*, Morgan Stanley Dean Witter, Aug. 16, 2000, at 2.

[153] Richard Bilotti, Benjamin Swinburne, and Megan Lynch, *Charter: Second-Quarter Results and Fiscal Year-End Preview*, Morgan Stanley Dean Witter, Aug. 16, 2000, at 3-4.

[154] The maximum speed of an analog telephone dial-up modem is currently 56.6 kbps. Many 56.6 kbps telephone-line modems can be purchased for as low as $29.99. *See* http://www.bestbuy.com. The typical cost of service from an Internet service provider is approximately $19.95 per month depending on the features of the service, though some services offer connection for as low as $9.95 a month. *See* http://www.earthlink.net; *see also* www.erols.com.

[155] Richard Bilotti, Benjamin Swinburne, Megan Lynch, Scott Babka, and Gary Lieberman, *Broadband/CATV Industry Review: Building the Digital Home Network*, Morgan Stanley Dean Witter, July 1, 2000, at 23 ("Morgan Stanley Dean Witter – Digital Home Network"). Last year, we reported that approximately 65 percent of Internet users access the Internet using analog telephone dial-up modems. This year, we report the percent of households that access the Internet as there are multiple Internet users in a single household using a shared mode of access. *See 1999 Report*, 15 FCC Rcd at 1003-04 ¶ 55.

[156] Morgan Stanley Dean Witter – Digital Home Network at 23. Broadband technologies include cable broadband, telephone company digital subscriber line ("DSL"), broadband wireless, and broadband satellite. By 2004, analysts expect 21.3 percent of households will access the Internet through cable broadband, 23.6 percent through DSL and 5.5 percent through wireless and satellite broadband technologies. *Id.* Broadband technologies allow users to access the Internet at much greater speeds than is available over traditional dial-up connections. *See 1999 Report*, 15 FCC Rcd at 1003-04 ¶¶ 55-56.

[157] *1999 Report*, 15 FCC Rcd at 1004 ¶ 56. The other means of accessing the Internet over cable broadband infrastructure is through the television using special equipment, as discussed in ¶ 54 *infra*. Internet access via a cable modem enables access to a wide array of services including Web browsing, e-mail, streaming audio and video, local content, and CD-ROM servers. *See 1999 Report*, 15 FCC Rcd at 1005 ¶ 58.

[158] Internet access over cable infrastructure offers a maximum downstream speed of 27 megabits-per-second ("Mbps"). However, because cable broadband network capacity is shared among users and hardware limitations, (continued…)

47. CableLabs created the cable modem standard, DOCSIS (Data Over Cable Service Interface Specification) in an effort to ensure the interoperability and retail sale of cable modem technologies.[159] Equipment conforming to the DOCSIS standard is eligible to be CableLabs Certified.[160] There are now 38 cable modem suppliers whose products have been certified by CableLabs on the DOCSIS 1.0 standard.[161] According to CableLabs, certification for DOCSIS 1.1 has begun, although no modems have yet been DOCSIS 1.1 approved.[162]

48. Last year, we reported that as of July 1999, more than 32 million homes in the U.S. and Canada were passed by Internet access service through cable modem technology, with approximately one million U.S. subscribers.[163] As of September 2000, cable modem service was available to approximately 62 million homes in the United States and Canada with more than 3 million U.S. subscribers.[164]

49. Virtually all the major MSOs offer Internet access via cable modems in portions of their nationwide service areas.[165] Unlike high-speed access offered through a telephone company where the customer can select the ISP of his own choice, the cable Internet service provider ("ISP") is selected by the cable provider and offered to customers in that cable operator's individual regions.[166] Currently, most cable operators offer only one ISP to customers in a given system, although there has been a move recently within the industry to offer multiple ISPs to customers in a given cable system.[167] On September

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most connections are between one and ten Mbps. Sanford C. Bernstein & Co., Inc. and McKinsey & Company, Inc., *Broadband! A Joint Industry Study,* Jan. 2000, at 37-39 ("Bernstein/McKinsey - Broadband!").

[159] *See 1999 Report,* 15 FCC Rcd at 1004 ¶ 57.

[160] CableLabs Certified means that a modem complies with CableLab's cable modem specifications which ensures that it will interoperate with qualified cable systems worldwide. CableLabs, *CableLabs Certifies More Modems* (press release), Oct. 20, 2000.

[161] CableLabs, *CableLabs Certifies More Modems* (press release), Oct. 20, 2000. *See also* http://www.cabledatacomnews.com/oct00/oct00-1.html.

[162] CableLabs, *CableLabs Concludes Milestone Modem Certification Wave* (press release), Dec. 15, 2000.

[163] *See 1999 Report,* 15 FCC Rcd at 1005 ¶ 58.

[164] Kinetic Strategies, Inc., *Cable Modem Market Stats & Projections,* Cable Datacom News, http://www.cabledatacomnews.com/cmic/cmic16.html.

[165] *See* App. B, Tbl. B-9. This list is not exhaustive. The MSOs listed here are examples of cable operators currently providing Internet access to subscribers in some of their service areas.

[166] Most cable providers hold interest in the chosen ISP and also provide proprietary content to that ISP. *See Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities,* GN Docket No. 00-185, *Notice of Inquiry* ("*High-Speed Access Inquiry*"), 15 FCC Rcd 19287 ¶ 10 (2000).

[167] Currently, most cable operators only offer their customers one ISP. However, some MSOs are beginning to offer customers a choice among two or three ISPs. For example, Time Warner has recently concluded a deal with Juno to provide Juno ISP service in addition to Road Runner ISP services, subject to Time Warner's pre-existing obligations with Road Runner. Time Warner also plans to offer AOL's ISP service over its cable systems. And Comcast has announced a multiple ISP trial with Juno making Juno available over certain Comcast cable systems. *See* Juno Online Services, Inc./Time Warner, Inc., *Juno and Time Warner Reach Agreement to Offer Juno Express Over Time Warner Cable Systems* (press release), July 31, 2000; Time Warner, Inc., *America Online and Time Warner Announce Framework for Agreements to Offer AOL Service and Other ISPs on Time Warner Broadband Cable Systems* (press release), Feb. 29, 2000; Comcast Cable Communications, Inc., *Comcast and Juno Announce Multiple ISP Trial* (press release), Nov. 29, 2000; Today, *Leading Cable MSOs Quietly Shift Toward Open Access,* (continued…)

28, 2000 the Commission released a *Notice of Inquiry* to determine what regulatory treatment, if any, should be accorded to cable modem service and the cable modem platform used in providing this service.[168] More specifically, the *Notice* seeks comment on the parameters the Commission should use in determining the appropriate level of access to cable networks for the provision of high-speed data services.[169] Road Runner and Excite@Home are still the leading cable ISPs.[170] As of August 2000, @Home reported two million cable modem subscribers and 32 million cable homes passed.[171] As of August 2000, Road Runner had one million subscribers.[172] Other ISPs offering access over cable infrastructure include High Speed Access Corporation, The ISP Channel, Earthlink, Internet Ventures Inc., RCN, Befera Interactive Cablenet, and Convergence.com.[173]

50. Among the MSOs offering high-speed Internet access are Cox, which as of June 1999, offered @Home service to approximately 5.6 million homes, and was serving about 320,000 subscribers.[174] Analysts expect that Cox will have about 460,000 subscribers by year-end 2000.[175] Comcast's @Home service offering is available to more than 4.4 million households, in more than 20 markets.[176] As of September 2000, Comcast had 250,000 subscribers with an additional 100,000

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Communications Daily, Apr. 6, 2000, at 4-5. "[a]t least 7 of [the] 11 largest cable operators are looking at offering access to multiple ISPs on their high-speed broadband lines" *Id.*

[168] *See High-Speed Access Inquiry*.

[169] *Id.*

[170] As reported in our *1998* and *1999 Reports*, Excite@Home and Road Runner are technologically different from other cable ISPs in that each provide its own local network and own routing and caching (storage) servers, allowing for increased access to popular content. *See 1998 Report*, 13 FCC Rcd at 24316 ¶ 56 and *1999 Report*, 15 FCC Rcd at 1005 ¶ 59. In March 2000, AT&T gained majority control of Excite@Home over its partners Cox and Comcast. *See* AtHome Corp., *Excite@Home's Principal Cable Partners Extend Distribution, AT&T Assumes More Prominent Role* (press release), Mar. 29, 2000. Furthermore, through its merger with MediaOne, AT&T gained control over MediaOne's Time Warner Entertainment partnership interest in Road Runner which it is subsequently required to divest pursuant to Department of Justice decree. *See Department of Justice v. AT&T Corp. and MediaOne Group, Inc.*, Case No: 1.00CV01176 (May 2000). In February 2000, America Online Inc., filed an application with the Commission for the transfer of licenses in order to acquire Time Warner Inc. By acquiring Time Warner Inc., AOL would effectively acquire Time Warner's majority interest in Road Runner through the Time Warner Entertainment partnership. *See Applications of Time Warner Inc., and America Online, Inc. for Consent to Transfer of Control of Licenses*, CS Docket 00-30, Feb. 11, 2000. The Commission has not released its order in this proceeding.

[171] AtHome Corp., *Excite@ Home Surpasses 2 Million Broadband Subscribers* (press release), Aug. 23, 2000; AtHome Corp., *Excite@ Home Reports Second Quarter 2000 Results* (press release), July 19, 2000.

[172] Road Runner, *RoadRunner Hits A Million* (press release), Aug. 23, 2000.

[173] Kinetic Strategies, Inc., *Cable Internet Service Providers and Systems Integrators*, Cable Datacom News, http://www.cabledatacomnews.com/cmic/cmic5.html.

[174] Cox Communications, Inc., *Cox Communications Reaches Milestone of 1 Million New Service Subscriptions* (press release), July 31, 2000; Jessica Rief Cohen and Nathalie Brochu, *Stocks Remained Under Pressure in 2Q00, Despite Solid Fundamentals*, Merrill Lynch, July 28, 2000, at 100.

[175] Jessica Rief Cohen and Nathalie Brochu, *Stocks Remained Under Pressure in 2Q00, Despite Solid Fundamentals*, Merrill Lynch, July 28, 2000, at 100.

[176] Comcast Reply Comments at 9.

subscribers expected by year-end 2000.[177] As of June 2000, AT&T (including the newly acquired MediaOne) had more than 690,000 @Home or Road Runner cable data subscribers.[178] Cablevision Systems Corporation offers @Home service to over 1.2 million homes in Connecticut, Long Island, and other areas around New York City, with more than 93,000 subscribers.[179] Charter offers Internet access through Charter Pipeline and High Speed Access Corporation.[180] As of June 2000, Charter had an estimated 144,000 high-speed data subscribers.[181] As of June 2000, Time Warner offers Road Runner Internet access service in ten states to over 10.5 million homes, with almost 890,000 subscribers.[182]

51. Although wireless and satellite broadband technologies continue to be deployed, telephone company DSL technologies remain the most significant competitors to Internet over cable.[183] ADSL, the most widely used form of DSL, offers data speeds from between 1.5 Mbps and 6.1 Mbps, less than cable's maximum speed of 27 Mbps.[184] As we reported last year, however, ADSL and DSL technologies in general have several advantages over cable broadband technology including guaranteed speed, which cable's shared network cannot offer.[185]

52. Currently, the number of DSL subscribers is significantly less than the number of cable broadband subscribers. By June 2000, there were 820,000 DSL subscribers compared to more than 2.3 million cable Internet access subscribers.[186] The rollout of DSL and other broadband technologies, however, is accelerating.[187] Analysts predict that by year-end 2000, there will be over 1.7 million DSL

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[177] *Id.* Comcast offers Expressnet high-speed data service in the systems it acquired from Jones in Arlington, Virginia, and Montgomery County, Maryland. *See* Kinetic Strategies, Inc., *Commercial Cable Modem Launches in North America,* Cable Datacom News, http://www.cabledatacomnews.com/cmic/cmic7.html.

[178] Morgan Stanley Dean Witter – Broadbandbury at 68. AT&T's originally owned systems provide @Home service and those systems acquired from MediaOne offer Road Runner service.

[179] Cablevision Systems Corporation, *Cablevision Systems Corporation Reports Second Quarter Financial Results* (press release), Aug. 9, 2000.

[180] *See* App. B, Tbl. B-10.

[181] Merrill Lynch – 2Q00 at 66-67.

[182] *Id.* at 142.

[183] *See* Morgan Stanley Dean Witter – Digital Home Network at 23. *See also generally* Bernstein/McKinsey - Broadband! The acronym "xDSL" refers to a general class of digital subscriber line technologies. We report on ADSL because it is the most feasible for mass market deployment at this time. Another type of xDSL technology is VDSL, which is the fastest of xDSL technologies, performing at rates of up to 52 Mbps. VDSL is expensive to deploy and cannot function over sustained distances, thus it has not been widely deployed.

[184] *Second Inquiry Concerning the Deployment of Advanced Telecommunications Capability Pursuant to Section 706 of the Telecommunications Act of 1996,* CC Docket No. 98-146, FCC 00-290 (rel. Aug. 21, 2000) at ¶36 n. 47.

[185] *1998 Report,* 13 FCC Rcd at 24314 ¶ 52. Another advantage is the ability to offer customers simultaneous, high-speed Internet and voice or facsimile capabilities over a single telephone. Dedicated lines that run from the telephone subscriber's home to the central office can guarantee the user a constant, high-speed rate of data transmission and security line. This means that there is no decrease in data transfer speeds as more users get online, unlike cable's shared network. *See 1999 Report,* 15 FCC Rcd at 1007 ¶ 61.

[186] Telechoice Inc., *TeleChoice2Q00 DSL Deployment Summary,* at http://www.xdsl.com.

[187] *Second Inquiry Concerning the Deployment of Advanced Telecommunications Capability Pursuant to Section 706 of the Telecommunications Act of 1996,* CC Docket No. 98-146, FCC 00-290 (rel. Aug. 21, 2000) at Tbls. D-2 to D-4. *See also* Bernstein/McKinsey - Broadband! at 33.

subscribers, compared to only 445,000 subscribers by year-end 1999.[188] Some analysts predict that there will be more residential DSL subscribers than cable modem subscribers by 2002.[189]

53. While both cable Internet access providers and DSL operators offer services at around the same price, the speed of the services offered by DSL providers and cable providers vary. For example Qwest offers a service with downstream data transfer rates of up to 640 kbps for $19.95.[190] Verizon (formerly Bell Atlantic) offers a service with data transfer rates of 256 kbps to 640 kbps downstream and 90 kbps upstream for $39.95 per month.[191] By comparison, @Home cable Internet access is priced at $39.95-$44.95 per month and offers transfer speeds of up to 2.9 Mbps downstream and 128 kbps upstream.[192] However, as we reported last year, because bandwidth on cable networks is shared among users, most @Home users experience data transfer rates of approximately 128 kbps.[193]

54. In addition, as we have reported in the past, a small portion of cable Internet access is delivered through a television receiver rather than a personal computer.[194] Using a dedicated browsing device that communicates with the cable set-top box, these services typically do not provide complete access to the Internet, but provide such basic applications as e-mail, Web browsing, and "hyperlinking" technology.[195] These services are priced as low as $9.95 per month, depending on type or service.[196] Many of these services are now considered by industry analysts to be interactive television ("ITV") services, instead of Internet access providers.[197] Nationwide providers of such service include WebTV, Worldgate, and America Online which provides AOLTV.[198] Wink Communications offers a similar

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[188] *See* Morgan Stanley Dean Witter – Digital Home Network at 23.

[189] *Id.* One analyst estimates that by year-end 2002 there will be approximately 10.1 million DSL subscribers and 9.1 million cable subscribers. *Id.*

[190] Qwest, *MegaBit Select,* http://www.uswest.com.

[191] Bell Atlantic Corp., *About Speed,* http://www.bellatlantic.com/infospeed/more_info/about_speed.html. Bell Atlantic also offers a service with data transfer rates of 960 kbps to 1.6 Mbps downstream and 90 kbps upstream for $99.95 per month. Bell Atlantic offers another service for $189.95 a month offering transfer speeds of 4.48 Mbps to 7.1 Mbps downstream and 384 kbps to 680 kbps upstream. *Id.*

[192] At Home Corp., *The Facts About Speed,* at http://www.home.net/speed.

[193] *1999 Report,* 15 FCC Rcd at 1008 ¶ 63.

[194] *1998 Report,* 13 FCC Rcd at 24315 ¶ 54; *1999 Report,* 15 FCC Rcd at 1008 ¶ 64.

[195] 1*999 Report,* 15 FCC Rcd at 1008 ¶ 64. Hyperlinking, in this context, is the technology that combines broadcast or cable television and telephone Internet connections to offer consumers access to supplemental information to television shows, one-button ordering, and the ability to play along with television shows when applicable.

[196] *See* WebTV, *Products, Classic, Pricing,* at http://www.webtv.com/products/classic/pricing.html. Web TV offers numerous levels of service ranging from $9.95 to $24.95. *See* WebTV at http://www.webtv.com

[197] *See* Spencer Wang, *Interactive Television,* ING Barrings Furman Selz, Sept. 2000.

[198] For an explanation of how the WebTV and Worldgate services operate, *see 1998 Report,* 13 FCC Rcd at 24315-6 ¶ 54. On June 19, 2000, AOL announced the launch of its ITV service, AOLTV. AOLTV is currently being test marketed in select cities (Phoenix, Sacramento, and Baltimore), though a larger deployment is planned. The AOLTV service includes e-mail, chat, instant messaging, Web browsing and enhanced interactive programming, which allows viewers to interact with programming in which the programmer has included interactive content. *See* America Online, *America Online Launches AOLTV* (press release), June 19, 2000; *see also Applications of America Online, Inc. and Time Warner, Inc. for Transfers of Control, CS Docket No. 00-30, ex parte* letter from George Vradenburg, III, Senior Vice President, Global and Strategic Policy, AOL, Inc., and Timothy A. Boggs, Senior Vice President, Global Public Policy, Time Warner, Inc., to Deborah Lathen, Chief, Cable Services Bureau, Sept. 29, (continued…)

product marketed primarily as an interactive tool for the enhancement of multichannel video programming. Charter is planning to rollout an interactive television service called Diego Broadband which will provide interactive television and limited Internet functionality including e-mail, chat, and news and travel information.[199]

55. ***Telephone Services Offered by MSOs***. Strategies for the deployment of telephone services by cable operators remains varied. Currently, only circuit-switched cable telephony is commercially deployed, but trials have begun for cable-delivered IP telephony.[200] MSOs, such as Cox and AT&T, continue to deploy circuit-switched cable telephony.[201] Others, like Cablevision and Comcast, are offering cable telephony on a limited basis, waiting instead for IP technology to become widely available before accelerating rollout of telephone services to customers.[202] Several MSOs, including Comcast and AT&T, are currently testing IP telephony, while others are planning such trials.[203] A few MSOs have not publicly announced any telephone strategy.[204]

56. Before IP telephony can be commercially deployed, however, there are still several technical obstacles. As we reported last year, CableLabs is managing a project, called PacketCable, aimed at identifying, qualifying, and supporting products that support Internet over cable-based multimedia services such as IP telephony.[205] On May 8, 2000, CableLabs announced the release of the final feature set for PacketCable residential IP voice service. [206] The feature set was designed to give guidance to vendors in their development of products.[207] The list of basic features represents the priority set of features that should be supported by IP voice equipment in order for cable operators to offer voice services commercially to residential customers.[208] The list of extended features represents the complete

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2000, at 4.

[199] Richard Bilotti, Benjamin Swinburne, and Megan Lynch, *Charter: Second-Quarter Results and Fiscal Year-End Preview*, Morgan Stanley Dean Witter, Aug. 16, 2000, at 3-4.

[200] As we have reported in past *Reports*, a cable telephony voice call and an IP telephony voice call both begin with special equipment that connects a household's twisted pair infrastructure with its cable infrastructure. Cable circuit-switched telephony, however, eventually turns the call over to traditional "circuit switched" processing, while IP telephony eventually turns the call over to the network of the Internet for IP processing. IP telephony processes voice telephone calls much like data are processed on the Internet; that is, digitized pieces of data are divided into discrete packets and are transported over the Internet following “the path of least resistance." This refers to the manner in which Internet data travels – data packets take any path that does not resist transfer. The path of least resistance is not always the shortest path, but it is the most reliable path for the mass transfer of data.

[201] *See* Merrill Lynch – 2Q00 at 23.

[202] *Id.*

[203] *Id.*

[204] *Id.*

[205] CableLabs, *Bukovinsky Selected to Blend CableLab’s Packet Cable and Cable Modem Initiatives* (press release), Sept. 9, 1999.

[206] CableLabs, *CableLabs Issues Final PacketCable Feature Set for Residential IP Voice Service* (press release), May 8, 2000.

[207] *Id.*

[208] *Id.*

set of features deemed necessary to sustain an ongoing IP-based voice service.[209] On July 21, 2000, CableLabs announced successful completion of its second round of PacketCable interoperability testing.[210] As a result of this testing, CableLabs released draft compliance test plans for PacketCable interface specifications.[211]

57. As of year-end 1999, AT&T (including MediaOne subscribers) led the industry in cable telephony deployment with over 133,000 cable telephone subscribers.[212] By June 2000, AT&T nearly doubled its subscribership to 234,000 cable telephone subscribers.[213] In February and March 2000, AT&T entered into agreements with Cablevision and Time Warner, respectively, which provide for joint marketing of AT&T-branded telephony service on Cablevision and Time Warner systems.[214] AT&T also signed an agreement with Insight Communications to co-market AT&T-branded all-distance telephony over Insight cable systems.[215] In addition, AT&T signed an agreement with Comcast for the provision of AT&T-branded telephony over Comcast systems.[216]

58. As of year-end 1999, Cox had over 100,000 subscribers and, by June 2000, Cox reported an estimated 167,000 cable telephone subscribers.[217] Comcast provides local telephone service primarily through telephony operations it has gained through system acquisitions.[218] As such, it currently serves the majority of its 12,000 circuit-switched telephony subscribers over the systems it acquired from Jones in Prince George's County, Maryland, and Alexandria, Virginia. However, Comcast offers a portion of its cable telephony service on its own systems in Ft. Lauderdale, Florida, and Baltimore, Maryland. [219] Comcast is also conducting an IP telephony trial in New Jersey.[220] Cablevision offers residential telephone service on Long Island and in Fairfield County, Connecticut.[221] The service is a circuit-

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[209] *Id.*

[210] CableLabs, *PacketCable Ends Round 2 of Testing, Releases Draft Compliance Test Plans* (press release), July 21, 2000.

[211] *Id.* PacketCable compliance test plans would establish specifications that a manufacturer would have to meet in order to make a PacketCable compliant IP telephony.

[212] Merrill Lynch – 2Q00 at 23.

[213] *Id.*

[214] AT&T Corp., *AT&T and Cablevision to Create High-Value Telecommunications Bundle for New York Metropolitan Area Customers* (press release), Feb 23, 2000; AT&T Corp., *AT&T and Time Warner Cable Announce Joint Marketing Agreement* (press release), Mar. 7, 2000. AT&T has begun to market its service with Cablevision, but has not moved forward in its agreement with Time Warner. *See* AT&T Corp., *AT&T and Cablevision Unveil Plans to Give Customers "Something Extra"* (press release), May 4, 2000.

[215] AT&T Corp., *Insight Communications and AT&T Broadband Finalize Agreement to Offer Local Telephone Service* (press release), July 24, 2000.

[216] Comcast Corp., *Two Companies to Collaborate in Offering* Telephony, (press release), May 16, 2000. Comcast's agreement with AT&T is contingent on AT&T partnering with at least two other MSOs. *Id.*

[217] Merrill Lynch – 2Q00 at 23.

[218] Comcast Comments at 10.

[219] *Id.*

[220] *Id.* at 11.

[221] Cablevision Systems Corporation, *Cablevision Systems Corporation Reports Fourth Quarter and Full Year 1999 Financial Results* (press release), Feb. 17, 2000.

switched telephone offering over the Cablevision's cable network.[222] As of year-end 1999, Cablevision provided service to about 8,900 subscribers and, by June 2000, had 11,000 subscribers.[223] Charter has three trials planned for late 2000, with one trial using IP technology and two using traditional circuit-switched technology.[224]

59. ***Multi-Service Offerings***. To enhance their value to the end-user, over the last several years cable operators began to upgrade their networks in order to offer digital video, high-speed modem data services, and cable telephony.[225] As we reported last year, aside from adding the value of "one stop shopping" for the consumer, the financial impact of offering multiple services (i.e., video, voice, and data) can lower an operator's marginal risk.[226] Analysts believe that the technology now exists to allow cable operators to effectively provide multiple advanced residential broadband applications and that the equipment needed to fully utilize the capabilities of the upgraded network will be available by the end of the year.[227]

B. Direct Broadcast Satellite Services

60. Direct broadcast satellite ("DBS") service is a nationally distributed subscription video service that delivers programming via satellite to a small parabolic "dish" antenna located at the viewer's home. There are currently four companies licensed by the Commission to provide DBS service: DirecTV, EchoStar (marketed as the DISH Network), Dominion Video Satellite, Inc. (marketed as Sky Angel) and R/L DBS Company.[228] Of these, DirecTV, EchoStar and Dominion currently provide service.[229] Last year we reported a number of changes in ownership for the DBS industry.[230] This year the DBS ownership landscape has remained stable. However, it has been reported that General Motors, and

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[222] *Id.*

[223] Cablevision Systems Corporation, *Cablevision Systems Corporation Reports Second Quarter Financial Results* (press release) Aug. 9, 2000; Cablevision Systems Corporation, *Cablevision Systems Corporation Reports Fourth Quarter and Full Year 1999 Financial Results* (press release), Feb. 17, 2000.

[224] Merrill Lynch – 2Q00 at 23.

[225] Morgan Stanley Dean Witter – Digital Home Network at 3.

[226] *1999 Report*, 15 FCC Rcd at 1011 at ¶ 68.

[227] Morgan Stanley Dean Witter – Digital Home Network at 3.

[228] R/L DBS holds a permit to construct a DBS system but has not launched a satellite or begun service. In August 1999, R/L DBS filed a petition requesting an extension of its build-out requirements in order to construct and launch a satellite for DBS service, 130 SAT-EXT-95. On December 28, 2000, the Commission granted a 36-month extension of time to R/L DBS. *See Petition of R/L DBS Company, L.L.C. For Extension of its Direct Broadcast Satellite Construction Permit*, Memorandum Opinion and Order, DA 00-2852 (rel. Dec. 29, 2000).

[229] Dominion was originally issued its DBS construction permit in 1982. Seventeen years later, 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. *See 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). *See also* http://www.skyangel.com. Dominion expects to launch its own satellite sometime in 2003.

[230] *1999 Report*, 15 FCC Rcd at 1011 ¶ 69.

its satellite subsidiary Hughes Electronics, is weighing the sale, spin-off, or other options for DirecTV, which it now owns.[231] In 1999, Hughes acquired PrimeStar's medium powered satellite business and customers.[232] The service was renamed "Primestar by DirecTV" and began a strategy of converting approximately 1.5 million former Primestar customers to its high powered DBS service.[233] On September 30, 2000, the company announced that it had converted approximately 1.2 million of the former Primestar by DirecTV customers and would discontinue the medium power service.[234]

61. ***Subscribership***. DBS is the principal competitor to cable television service with 12,987,000 subscribers as of June 30, 2000, a gain of almost three million subscribers, and an increase of over 28 percent since June 1999.[235] DBS's share of MVPD households has grown to over 15 percent nationally.[236]

62. DirecTV, which reported revenues of $2.1 billion for the first six months of 2000, is the nation's leading DBS service and the third largest distributor of multichannel video programming.[237] DirecTV had over 8.7 million subscribers as of June 2000, an increase of almost 15 percent from the 7.6 million customers reported as of June 1999.[238] These figures include 705,000 former "Primestar by DirecTV" subscribers who were transitioned to DirecTV's high-powered DBS service during the first six months of 2000.

63. As of June 2000, EchoStar reported a 65 percent increase in subscribers, from 2.6 million in June 1999 to more than 4.3 million subscribers as of June 2000.[239] EchoStar is now the seventh largest MVPD in the United States.[240]

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[231] *Hughes on Market?*, Television Digest with Consumer Electronics, Sept. 11, 2000, at 6. *See also*, David Lieberman, *Murdoch Tries To Sweeten Bid For DirecTV*, USA Today, Dec. 7, 2000, at 1B. In a related transaction, Hughes sold its satellite manufacturing operations to the Boeing Company in early October 2000, for $3 billion. Proceeds from the sale are expected to be used primarily to fund the growth of its DirecTV, DirecPC broadband, and Spaceway businesses. *See Hughes Finalizes Sale of Satellite Operations to Boeing* (press release), Oct. 6, 2000.

[232] *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 (1999).

[233] In previous years, we included a discussion of Primestar Partners, L.P. ("Primestar"), a medium-powered Ku-band Fixed Satellite Service ("FSS"), together with our discussion of high-powered Ku-band DBS providers. In May 1999, DirecTV acquired the assets of the now-defunct Primestar DTH service. *See 1998 Report*, 13 FCC Rcd at 24323 ¶ 61.

[234] *Hughes Announces DirecTV Subscriber Additions for the Third Quarter* (press release), Oct. 4, 2000.

[235] Appendix C, Table C-1. *See also* SBCA Comments at 7, Table 1. Current subscriber numbers from SkyREPORT at www.skyreport.com/skyreport.com/dth_us.htm.

[236] NCTA Comments at 9.

[237] Christopher Stern and Peter S. Goodman, *FCC Clears Purchase of Media One By AT&*T, Washington Post, June 6, 2000, at A01. *See also* DirecTV Comments at 11, http://www.hughes.com.

[238] DirecTV Comments at 10. Hughes expects to add over two million additional customers by the end of 2000. *Hughes Announces DirecTV Subscriber Additions for the Third Quarter* (press release), Oct. 4, 2000.

[239] EchoStar Comments at 1.

64. Dominion, under the brand name Sky Angel, is a self-described Christian and family oriented DBS service. Sky Angel offers 16 video and 16 radio channels for $9 a month.[241] While the company currently serves fewer than one million subscribers, it estimates that the universe of television households with an interest in its niche programming is upwards of 23 million and expects to add seven million new subscribers in the next seven years.[242] Because Dominion's transponders are currently located on an EchoStar satellite, Sky Angel subscribers may also receive DISH Network programming using the same 18-inch DBS antenna.[243] Dominion estimates that 60 to 65 percent of its subscribers also subscribe to DISH Network programming. In addition, many Sky Angel customers also subscribe to a local cable service.

65. SBCA, the national trade organization of the satellite television industry, notes that the period between July 1, 1999, and July 1, 2000, has been significant because of the consistent pattern of new subscriber acquisition by DBS providers.[244] SBCA states that DBS is gaining over 8,000 subscribers per day, with an annual subscriber growth rate of 31 percent.[245] In comparison, the annual subscriber growth rate for cable television is estimated to be between one and one and a half percent for 2000. Given this rate of increase for DBS, SBCA predicts that the DBS industry could reach 16 million subscribers by the end of 2000.[246]

66. DBS subscribership is growing in urban and suburban communities and is no longer viewed as a predominately rural service.[247] While DTH (both DBS and HSD service) penetration varies nationwide by state from a low of less than six percent to a high of almost 40 percent, the trend is toward growth in all geographic areas.[248] Forty-four states now have penetration of more than 10 percent, as compared to the 40 states reported in 1999; 24 states have more than 20 percent penetration, compared to 10 states in 1999; and three, mostly rural, states have more than 30 percent DTH penetration.[249] According to DirecTV, its subscribers are distributed evenly across the continental United States with

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[240] Christopher Stern and Peter S. Goodman, *FCC Clears Purchase of MediaOne By AT&T; Divestitures Required For $58 Billion Deal*, The Washington Post, June 6, 2000, at 1. NCTA Comments at 3.

[241] Donald Matheson, *IMARK Signs Contract with Sky Angel Network*, Canada Stockwatch, April 10, 2000, at 1. Dominion expects to offer 20 channels of video programming by year-end 2000.

[242] Information from telephone conversation with Robert Johnson, CEO, Dominion, November 9, 2000.

[243] Sky Angel subscribers who wish to receive the Dish Network must subscribe separately to each service. The Dominion/EchoStar satellite sharing arrangement is technical in nature and not a joint venture or merger. Information from telephone conversation with Robert Johnson, CEO, Dominion, November 9, 2000.

[244] SBCA Comments at 1-2.

[245] *Id*. at 8-9, Table 3.

[246] *Id*. at 8.

[247] *See 1999 Report*, 15 FCC Rcd at 1016 ¶ 78.

[248] DTH subscribership in Hawaii is approximately one percent. DBS service to Hawaii did not begin until April of 2000 when EchoStar introduced a 44-channel service offering to the islands. *See* State of Hawaii Reply Comments at 2; SBCA Comments at Appendix A.

[249] SBCA Comments at 6 and Appendix A; NCTA Comments at 10-11.

approximately 50 percent residing in urban counties and 50 percent living in smaller, rural counties.[250] DirecTV also notes that approximately two-thirds of its new subscribers live in urban counties.[251]

67. In a related development, several very small and rural cable systems have used a variety of schemes to add digital channels, expand their program offerings, and take preemptive action against aggressive DBS marketing without costly expenditures such as headend upgrades.[252] These actions range from abandoning their cable plant and becoming authorized DBS dealers to forming partnerships whereby cable subscribers receive both cable service and satellite service from DBS overlay vendors such as HITS and WSNet.[253]

68. ***Availability of Local Broadcast Stations***. This year's significant increase in DBS subscribership has been attributed in part to the authority granted to DBS providers in late 1999 to offer "local-into-local" service.[254] Previously, DBS providers were restricted by copyright law from retransmitting local broadcast stations into the local television markets they served. On November 29, 1999 the Satellite Home Viewer Improvement Act of 1999 ("SHVIA") was enacted, under which satellite providers are now allowed to retransmit local and network affiliate signals into their local markets.[255]

69. SBCA cites a Skytrends analysis of 13 designated market areas ("DMAs") where DirecTV and/or EchoStar have introduced local-into-local service. The study found that, between June and December 1999, prior to SHIVA, DBS operators added an average of 4,002 new subscribers per month within each DMA. For the post-SHIVA period (January-June 2000), DBS operators added an average of 5,706 new subscribers per month in each DMA, an increase of 43 percent over the pre-SHVIA period.[256]

70. As of November 2000, DirecTV offers the local affiliates of ABC, CBS, NBC, and FOX in 38 markets for a package price of $5.99 a month.[257] DirecTV also provides a national PBS feed with every $5.99 local station package. DirecTV plans to offer local affiliates in additional markets by the end

[250] DirecTV Comments at 13.

[251] *Id*.

[252] Ouray Cablevision in rural Colorado ceased cable service and provided each of its 1,000 customers satellite service through EchoStar. *See* John Higgins, *Switching to Satellite TV*, Broadcasting & Cable, July 17, 2000, at 26.

[253] Linda Moss, *Eking Out a Living*, Multichannel News, August 7, 2000, at 54.

[254] SBCA Comments at 5, 7-9.

[255] SHVIA was enacted as 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.), Pub.L. No. 106-113, 113 Stat. 1501, 1501A-526 to 1501A-545 (Nov. 29, 1999).

[256] SBCA Comments at 8.

[257] These markets are: Birmingham, Alabama; Phoenix, Arizona; Los Angeles, Sacramento/Stockton, San Diego, San Francisco/Oakland/San Jose, California; Denver, Colorado; Washington, D.C.; Miami/Ft. Lauderdale, Orlando/Daytona, Tampa/St. Petersburg/Sarasota, Florida; Atlanta, Georgia; Chicago, Illinois; Indianapolis, Indiana; Boston, Massachusetts; Baltimore, Maryland; Detroit, Michigan; Minneapolis/St. Paul, Minnesota; Kansas City, St. Louis, Missouri; Charlotte, Greensboro, Raleigh/Durham, North Carolina; New York, New York; Cincinnati, Cleveland, Ohio; Portland, Oregon; Philadelphia, Pittsburgh, Pennsylvania; Greenville, South Carolina; Memphis, Nashville, Tennessee; Dallas/Ft. Worth, Houston, San Antonio, Texas; Salt Lake City, Utah; Seattle/Tacoma, Washington; and Milwaukee, Wisconsin. *See Implementation of the Satellite Home Viewer Improvement Act of 1999: Broadcast Signal Carriage Issues*, CS Docket No. 00-96, Report and Order, FCC 00-417 (rel. Nov. 30, 2000) at Appendices D and E ("*SHVIA Signal Carriage Order*"); *see also* http://www.directv.com.

of 2000.[258] According to DirecTV, more than 40 percent of its customers in those markets subscribe to the local broadcast service and among new customers the subscription rate is 57 percent.[259] Similarly, EchoStar transmits a local network package to its subscribers in 34 markets for $4.99 a month and offers the national PBS feed as an option for an additional one dollar per month.[260]

71. The SHVIA also directed the Commission to undertake and complete rulemakings related to satellite carriage of broadcast stations within one year of enactment on November 29, 2000. As required by the SHVIA, the Commission established rules to implement mandatory carriage of broadcast signals ("must-carry"), retransmission consent, and program exclusivity with respect to satellite carriage of broadcast stations. Pursuant to the SHVIA, these rules are as comparable as possible to rules that govern cable carriage of broadcast stations. As further required by the SHVIA, the Commission revised the Individual Location Longley-Rice computer model used to predict subscriber eligibility to receive distant network stations and offered recommendations on the Grade B signal standard as it applies to such eligibility determinations.[261]

72. ***DBS versus Cable***. Several commenters note that with the passage of SHVIA and the growth in subscribership, many of the differences between DBS and cable service have been eliminated.[262] Others contend, however, that significant differences remain between the two services and they should not yet be considered substitutes.[263]

73. In its comments, AT&T states that because DBS has a 15.8 percent share of the MVPD market, with subscriber growth 20 times as high as cable, plus exclusive sports programming and the

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[258] DirecTV Comments at 12, footnote 25. The new markets listed in its comments are: Birmingham, Alabama, Greensboro, North Carolina, West Palm Beach, Florida, Columbus, Ohio, Austin and San Antonio, Texas. In these markets, the local channels will be received from the DirecTV satellite at 119 degrees WL and will require the use of a multi-satellite capable system. *See* http://www.directv.com/press/.

[259] DirecTV Comments at 13.

[260] EchoStar's DISH Network currently offers local channels in 34 metro areas, including: Phoenix, Arizona; Los Angeles, Sacramento/Stockton, San Diego, San Francisco/Oakland/San Jose, California; Denver, Colorado; Washington, D.C.; Miami/Ft. Lauderdale, Orlando/Daytona, Tampa/St. Petersburg/Sarasota, Florida; Atlanta, Georgia; Chicago, Illinois; Indianapolis, Indiana; Boston, Massachusetts; Detroit, Michigan; Minneapolis/St. Paul, Minnesota; Kansas City, St. Louis, Missouri; Charlotte, Raleigh/Durham, North Carolina; Albuquerque, New Mexico; New York, New York; Cincinnati, Cleveland, Ohio; Portland, Oregon; Philadelphia, Pittsburgh, Pennsylvania; Greenville-Spartanburg, South Carolina; Nashville, Tennessee; Dallas/Ft. Worth, Houston, San Antonio, Texas; Salt Lake City, Utah; and Seattle/Tacoma, Washington. *See SHVIA Signal Carriage Order*. *See also* http://www.dishnetwork.com/ and http://www.skyreport.com/skyreport/local.htm.

[261] *Implementation of the Satellite Home Viewer Improvement Act 1999: Broadcast Signal Carriage Issues, Retransmission Consent Issues*, CS Docket Nos. 00-96, 99-363, Report and Order, FCC 00-417 (rel. Nov. 30, 2000); *Technical Standards for Determining Eligibility For Satellite-Delivered Network Signals Pursuant To the Satellite Home Viewer Improvement Act*, ET Docket No. 00-90, Report, FCC 00-416 (rel. Nov. 29, 2000); *Implementation of the Satellite Home Viewer Improvement Act of 1999: Application of Network Non-Duplication, Syndicated Exclusivity, and Sports Blackout Rules To Satellite Retrasmissions of Broadcast Signals*, CS Docket No. 00-2, Report and Order, FCC 00-338 (rel. Nov. 2, 2000); *Implementation of the Satellite Home Viewer Improvement Act of 1999, Enforcement Procedures for Retransmission Consent Violations*, Order, 15 FCC Rcd 2522 (2000); *Implementation of the Satellite Home Viewer Improvement Act of 1999, Retransmission Consent Issues: Good Faith Negotiation and Exclusivity*, CS Docket No. 99-363, First Report and Order, 15 FCC Rcd 5445 (2000).

[262] AT&T Comments at 3; NCTA Comments at 3.

[263] American Broadband Comments at 8-9; EchoStar Comments at 2.

ability to carry local signals under SHVIA, it is now a powerful presence in the marketplace that the Department of Justice has found to be a substitutable service for cable.[264] On this basis, AT&T requests that the Commission relax or eliminate existing regulations and avoid new regulations for cable.

74. Like AT&T, NCTA points to the rising MVPD market share of DBS (15.25 percent according to their estimates) as evidence that DBS providers are competitive alternatives to cable in every market.[265] NCTA further states that there is evidence of a nationwide competitive threat from DBS to cable that has spurred cable operators to compete vigorously for subscribers. NCTA also points to offers of free equipment and free installation from DBS providers that have decreased high up-front costs and DBS monthly subscription fees comparable to those of cable.

75. In contrast, EchoStar states that effective competition has yet to arrive in the MVPD marketplace, although it concedes that DBS is perhaps the only true alternative to cable.[266] According to EchoStar, increases in DBS subscriber counts have not been accompanied by comparable decreases in the number of cable subscribers or cable's market share. Therefore, the continuing market power of incumbent cable operators leads to unfair advantages including preferential access to video programming.

76. Others contend that the failure of DBS to restrain cable rates demonstrates that the two industries are competing for "a thin layer of affluent customers…. not necessarily swayed by incremental price differences."[267] Finally, American Broadband notes a recent GAO study that suggests that DBS does not exert significant pricing pressure on cable service prices and has not brought about the level of competition between DBS and cable to conclude that the program access rules are no longer needed.[268] GAO, which studied 1998 cable rates, found that greater DBS penetration was correlated with somewhat higher cable rates and that the presence of a nonsatellite competitor, such as another cable company or a wireless cable operator, was more likely to result in lower cable rates.[269]

77. ***Broadband Satellite Services***. As with cable operators, satellite providers are developing ways to bring advanced services to their customers. Currently, DirecTV offers a satellite-delivered high-speed Internet access service with a telephone return path called DirecPC and a dual functioning (video and data) DBS antenna called DirecDUO.[270] Future services aim for true two-way interactivity by eliminating the telephone return path.

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[264] AT&T Comments at 2-5. AT&T refers to the Department of Justice's 1998 decision to block Primestar Inc., from acquiring a high powered DBS slot owned by MCI and News Corp. Primestar was owned by a group of companies, including the largest cable MSOs at that time. The decision notes that "consumers view [cable and DBS] as similar and to a large degree substitutable." *See* Complaint, *United States v. Primestar, Inc*. No. 1:98CV01193 (D.D.C. 1998) at 63.

[265] NCTA Comments at 3.

[266] EchoStar Comments at 1.

[267] Christopher Stern, *Cable's Satellite Wars*, Washington Post, Aug 13, 2000, at H1.

[268] American Broadband Comments at 8. GAO Report to Congressional Requestors, *The Effect of Competition from Satellite Providers on Cable Rates*, July 2000 ("GAO Study").

[269] GAO Study at 7. The study found several demand, cost, and market structure factors were associated with cable rates.

[270] 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.

78. A number of video providers and programmers have financial interests in WildBlue (formerly called iSKY), a satellite company that intends to use Ka-band spectrum and spot-beam technology to deliver two-way, high-speed data to residential markets beginning in late 2001.[271] WildBlue plans to market its Ka-band Internet service for $35-$40 per month and its set-top box for $200.[272] EchoStar also has a 17.6 percent stake in Starband (formerly called Gilat-2-Home). On November 7, 2000, StarBand Communications launched a high-speed Internet service using a single antenna capable of receiving EchoStar's Dish Network video signal as well as two-way, high-speed data.[273] Starband is a joint venture whose partners include Israel-based Gilat Satellite Networks, EchoStar and Microsoft.[274]

79. In 1999, America Online ("AOL") and DirecTV partnered to develop a set-top box to provide interactive and "web surfing" Internet services. The DirecTV/AOL partnership will soon begin marketing its "AOL via DirecPC" broadband service. The company expects to start the service using a two-way connection using Ku-band satellites.[275] By 2003, DirecTV plans to switch to Ka-band technology for its new "Spaceway" service, which would offer faster connections than DirecPC's Ku-band service.[276] DirecTV also formed partnerships with the TiVo Company to develop a PVR/set-top box with personalized television functions and with Wink Communications to provide interactive multimedia services.[277] Despite the rollout of DSL and cable modems, analysts predict there will be a market for broadband satellite services principally in the estimated 20 to 30 million homes in rural and suburban areas that may be unable to receive cable or DSL for the foreseeable future.[278]

80. ***Terrestrial Reuse of DBS Spectrum***. In 1998, the Commission received a proposal by Northpoint Technologies, Inc. to reuse the direct broadcast satellite band at 12.2-12.7 GHz for a terrestrial service that would deliver multichannel video and one-way data services.[279] On November 29, 2000, the Commission concluded, among other things, that a new terrestrial multichannel video distribution and data service ("MVDDS") can operate in the 12.2-12.7 GHz band with incumbent broadcasting satellite services (including DBS) and voted to allow MVDDS services.[280] Although the incumbent DBS licensees

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[271] WildBlue's investors include EchoStar, Liberty Media Group, TV Guide, Kleiner Perkins Caufield & Byers, TRW and TeleSat. *See* www.wildblue.com. *See also Satellite Broadband Company Chooses WildBlue Brand Name* (press release), Aug 14, 2000; Price Colman, *The Highway to High Speed*, Broadcasting & Cable, May 8, 2000, at 30.

[272] *DBS Service Planned.(EchoStar And iSKY To Offer 2-Way Wireless Broadband Services*), Television Digest, April 3, 2000, at 9.

[273] *Starband Launches Two-Way Satellite Internet Service*, Communications Daily, Nov. 7, 2000.

[274] Price Colman, *The Highway to High Speed*, Broadcasting & Cable, May 8, 2000, at 32.

[275] Monica Hogan, *DBS Providers Set Two-Way Broadband Plans*, Multichannel News, April 17, 2000, at 53.

[276] *Id*.

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

[278] Price Colman, *The Highway to High Speed*, Broadcasting & Cable May 8, 2000, at 32.

[279] *See Non-Geostationary Satellite Services Proposed In the Ku-Band; Expanded Services to DBS Subscribers Also Considered*, General Action, ET Docket 98-206, Report No. GN 98-13 (1998). The Commission has also proposed to allow non-Geostationary Orbit Fixed Satellite Services (NGSO FSS) in this frequency range. In addition to its participation in ET Docket 98-206, Northpoint and its affiliates (under the name Broadwave USA) have filed license applications for the 12.2-12.7 GHz band covering the United States and competing terrestrial applications have been filed by Pegasus Communications and Satellite Receivers, Inc.

[280] The Commission also adopted a Further Notice of Proposed Rulemaking seeking comment on technical and service rules for licensing the new services. *Amendment of Parts 2 and 25 of the Commission's Rules to Permit*

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have agreed internationally to a sharing criterion to allow some additional satellite operations in the band, they opposed increased usage by terrestrial operations.[281] According to SBCA, permitting such frequency sharing would cause harmful interference and service disruption for DBS customers.[282] Northpoint has performed three sets of experimental testing that demonstrate that its technology can share spectrum with DBS and the DBS licensees have performed similar tests that refute Northpoint's claims of no interference.[283] The Commission decision requires that MVDDS services operate on a "non-harmful interference basis" with the incumbent DBS services.[284]

81. ***DBS Public Interest Obligation***. Pursuant to the Cable Act of 1992, DBS service providers must set aside a percentage of channel capacity for noncommercial programming of an educational or informational nature.[285] The effective date for implementation of the DBS public interest obligations was December 15, 1999.[286] EchoStar currently offers 19 channels of public interest programming under this provision of the Commission's rules.[287] DirecTV carries nine noncommercial networks under these rules.[288]

82. The public interest programming being offered by DBS consists of national channels, rather than the mostly locally produced content offered on cable public, educational, and government ("PEG")

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Operation of NGSO FSS Systems Co-Frequency With GSO and Terrestrial Systems in the Ku-Band Frequency Band; Amendment of the Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Licensees and Their Affiliates; and Applications of Broadwave USA, PDC Broadband Corporation, and Satellite Receivers, Ltd., to Provide A Fixed Service in the 12.2-12.7 GHz Band, ET Docket No. 98-206, RM-9147, RM-92-45, First Report and Order and Further Notice of Proposed Rulemaking ("*New Fixed Satellite Services Order*"), FCC 00-418 (rel. Dec. 8, 2000).

[281] Paige Albiniak, *DBS Battles Northpoint*, Broadcasting & Cable, May 1, 2000, at 20. John M. Higgins, *The Next Big Thing?*, Broadcasting & Cable, August 7, 2000, at 23-30.

[282] SBCA Comments at 3, Appendix D.

[283] *See New Fixed Satellite Services Order*.

[284] *Id.*

[285] On November 19, 1998, the Commission adopted rules implementing Section 25 of the 1992 Cable Act, which requires that DBS providers must reserve four percent of their channel capacity exclusively for use by qualified programmers for noncommercial programming of an educational or informational nature. Channel capacity is determined annually by calculating the average number of channels available for video programming on all satellites licensed to the provider during the previous year. *See 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).

[286] *DBS Public Interest Order*, 13 FCC Rcd at 23309-10 ¶136; *see also* 47 C.F.R. § 100.5(c)(7). EchoStar initially failed to meet the deadline to begin public interest programming and was eventually fined $11,000 for non-compliance with Commission rules. *See American Distance Education Consortium*, Declaratory Ruling and Order, 14 FCC Rcd 19976 (1999*). See also EchoStar Satellite Corporation, Licensee of Direct Broadcast Satellite System*, File No. EB-00-1H-0014, NAL/Acct No. X32080009 JJS, Notice of Apparent Liability for Forfeiture, 15 FCC Rcd 5557 (2000).

[287] EchoStar, *DISH Network Satellite Television Adds Five New Public Interest Channels* (press release), Dec. 19, 2000. *See also* www.echostar.com.

[288] *DBS Shows Diversity*, Television Digest, Sept 4, 2000, at 4. *See also* www.directv.com.

channels.[289] Nevertheless, members of the public interest community are reportedly "disappointed" that the Commission's rules allow DBS operators to select the public interest programmers and the DBS industry's practice of limiting public interest programmers to short-term contracts.[290]

C. Home Satellite Dishes

83. The home satellite dish ("HSD") or C-band segment of the satellite industry continues to experience a decline in subscribership. Between June 1999 and June 2000, C-band subscribers fell from 1,783,411 to 1,476,717, an average loss of 840 subscribers per day.[291] In November 1999, Netlink Group, the leading provider of C-band programming sold its subscriber lists to EchoStar for $10 million, thus enabling EchoStar to solicit Netlink's subscribers. Netlink will receive a cash payment if any of its former subscribers actually converts to EchoStar.[292]

84. Nevertheless, many current C-band subscribers remain loyal to the service and a small number of new subscribers has been added.[293] For example, Paul Dowgewicz, a consumer who filed comments in this proceeding, states that he switched from cable to C-band because of the limited number of channels on his cable system, the greater variety of program types on C-band, and the ability to purchase C-band programming on a per channel basis.[294]

85. It is expected that C-band will continue as a niche service for some time. As noted in the *1999 Report*, many existing HSD transponder leases extend past 2010 and within the last year, six new satellites have been launched to replace older satellites.[295] In addition, new, digital equipment for C-band continues to be developed and made available to subscribers.[296]

D. Multichannel Multipoint Distribution Service

86. 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.[297] An MMDS system must have a line-of-sight path between the transmitter or signal booster

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[289] Among DBS public interest offerings are Free Speech TV, Hispanic Information Telecommunications Network, WorldLink TV, Eternal World TV, Good Samaritan Network, Trinity Broadcasting, Brigham Young University, C-SPAN, NASA-TV, Northern Arizona University, The Research Channel, Clara+Vision, Inspirational Life, and StarNet. *See Competition to Cable*, Warren's Cable Regulation Monitor, September 11, 2000.

[290] *DBS Shows Diversity*, Television Digest, Sept 4, 2000, at 4.

[291] SBCA Comments at 7-8, Tables 1 and 3.

[292] Art Durbano, *50 Reasons Why Bigger is Better*, Satellite Orbit, March 2000, at 15.

[293] SBCA Comments at 6.

[294] Dowgewicz Comments at 1-2. Mr. Dowgewicz expressed concern, however, that HSD programming is increasingly being sold in bundled packages of programming thereby eliminating one of the service's advantages.

[295] *1999 Report*, 15 FCC Rcd at 1019 ¶ 84. Art Durbano, *50 Reasons Why Bigger is Better*, Satellite Orbit, March 2000, at 16.

[296] SBCA Comments at 6. Althought most C-band satellite receivers are analog and do not receive digital signals, C-band customers may buy a digital decoder/receiver in order to access and view digital programming.

[297] *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* (continued…)

and the receiving antenna. Because of capacity limitations when using analog signals, MMDS operators can offer a maximum of 33 microwave channels available in each market, including 13 MDS channels and 20 ITFS channels. Digital technology significantly increases the channel capacity, improves picture and audio quality, and makes two-way services, such as high-speed Internet access and telephony, possible.

87. As we reported last year, the MMDS industry provides competition to the cable industry for MVPD service only in limited areas.[298] Sprint Corporation and MCI WorldCom, Inc. have acquired most of the larger MMDS operators, with the intent of using the acquired frequencies to provide two-way non-video communication services, and have begun trials of this service.[299] WCA points out, however, that MMDS provides the only local competition to many cable operators.[300] Such competition is particularly important, WCA indicates, in "…smaller markets and rural areas where cable overbuilds and/or DBS 'local into local' service [i.e., offering local over-the-air broadcast stations to subscribers] may not be available for the foreseeable future."[301] Thus, while it appears that most MMDS licenses will not be used in the future to compete in the MVPD market, in some areas, MMDS constitutes the only competition to incumbent cable operators. The MMDS industry is currently transitioning from offering video programming to offering data services.[302]

88. ***MMDS Households and Subscribership***. In 1999, the number of homes with a serviceable line-of-sight to an MMDS operator's transmission facilities was reported to be 62,500,000, and the number of homes actually capable of receiving an MMDS operator's signal ("homes seen") was reported to be 35,750,000.[303] WCA states that there are approximately one million MMDS video subscribers.[304] Other estimates indicate, however, that the number of MMDS subscribers has dropped to approximately

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(…continued from previous page)
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.

[298] *1999 Report*, 15 FCC Rcd at 1019-20 ¶ 86.

[299] *See* ¶ 89 *infra*.

[300] WCA Comments at 2.

[301] *Id.*

[302] *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*, 13 FCC Rcd 19112 (1998), *recon.*, 14 FCC Rcd 12764 (1999), *further recon. pending. See also Mass Media Bureau Multipoint Distribution Service and Instructional Television Fixed Service Applications Tendered for Filing*, Public *Notice*, Report No. 148 (November 29, 2000) in which the Mass Media Bureau listed over 2200 applications for MDS/MMDS and ITFS that were tendered for filing during the initial two-way filing window pursuant to *Mass Media Bureau Provides Further Information on Application Filing Procedures and Announces Availability of Electronic Filing for Two-Way Multipoint Distribution Service and Instructional Television Fixed* Service, Public *Notice*, 15 FCC Rcd 11466 (2000).

[303] Paul Kagan Assocs., Inc., *Wireless Cable Sub Count and Revenue Projections, 1998-2009*, Wireless/Private Cable Investor, July 13, 1999, at 4-5. (Paul Kagan Associates did not update this number for 2000.) 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, n. 272.

[304] WCA Comments at 3 *citing* Paul Kagan Assocs., Inc., *Wireless Cable – Private Cable Investor*, Nov. 5, 1999, at 6.

700,000.[305] At least one company, Nucentrix, is combining its MMDS spectrum with DBS service to offer a broader array of video services,[306] as we reported last year.[307] BellSouth continues to operate its MMDS video systems, as we report in more detail below.[308] The combination of these trends indicates that companies will continue to use MMDS spectrum to provide video services, but only in limited areas, especially rural ones. It appears that most MMDS spectrum will eventually be used to provide high-speed data services.

89. ***Interexchange Carrier ("IXC") Investment***. We previously reported on MCI WorldCom's and Sprint's purchases of a significant number of MMDS operators.[309] Over this past year, both MCI WorldCom and Sprint have moved forward with their plans to offer two-way high-speed Internet access over the MMDS licenses they acquired. MCI WorldCom began trials of the high-speed service in five cities (Boston, Jackson, Mississippi, Baton Rouge, Memphis,[310] and Dallas-Fort Worth[311]) and has filed applications with the Commission to offer the service in more than 60 cities.[312] Sprint has launched service in eight areas (Phoenix, Tucson, Houston, Silicon Valley, Denver, Colorado Springs, Salt Lake City, and Wichita, Kansas)[313] and has filed applications to offer service in 45 additional markets, with a potential reach of 24.8 million homes.[314]

90. ***Barriers to Competition***. BellSouth has indicated barriers to competition for MMDS operators. First, BellSouth contends that the consolidation and clustering of cable systems gives cable MSOs leverage vis-à-vis cable programming networks and broadcast networks, making them less willing to sell programming to cable's competitors.[315] BellSouth further maintains that this consolidation and clustering increases the ability of vertically integrated MSOs to avoid program access obligations by delivering programming terrestrially,[316] and increases incumbent cable operators' leverage vis-à-vis non-vertically-integrated programming networks.[317] BellSouth therefore requests that the Commission extend the existing program access rules beyond the 2002 sunset, and that the Commission: (1) recommend that Congress eliminate the non-vertical integration and terrestrial delivery exceptions to the statute; and

[305] Paul Kagan Assocs., Inc., *Basic Cable Network Economics, 1995-2010*, Cable Program Investor, June 16, 2000, at 7.

[306] *See, e.g.*, http://www.nucentrix.com/site/television/products/index.html.

[307] *1999 Report*, 15 FCC Rcd at 1020 ¶ 88.

[308] *See* ¶ 121 *infra*.

[309] *1999 Report*, 15 FCC Rcd at 1020-21 ¶ 89.

[310] MCI WorldCom, *MCI Worldcom To Test 'Fixed Wireless' Service In Boston* (press release), Mar. 27, 2000. One press report indicates that MCI Worldcom began commercial service in Memphis. TR Daily, *WorldCom Begins Rollout of MMDS Service*, Nov. 15, 2000, at 9.

[311] MCI WorldCom, *MCI Worldcom Adds Dallas To 'Fixed Wireless' Service Trials* (press release), Apr. 5, 2000.

[312] WorldCom, *WorldCom Seeks Broadband Fixed Wireless Authority* (press release), Aug. 14, 2000.

[313] Sprint, *Sprint Powers Wichita's Residential and Small Business Customers With New Broadband Wireless Service* (press release), Dec. 5, 2000.

[314] KaganBROADBAND, *Sprint Takes Run at Bigger MMDS Footprint*, Aug. 24, 2000, at 1.

[315] BellSouth Comments at 3-5.

[316] *Id.* at 5-6. *See also* WCA Comments at 8-10 (particularly noting cable operators' successes at denying regional sports programming from competitors).

[317] BellSouth Comments at 6.

(2) either require strict justification of volume discounts or ask Congress to clarify the language in the statute.[318]

E. Satellite Master Antenna Television Systems

91. SMATV systems, also known as private cable operators, are video distribution facilities that use closed transmission paths without using any public right-of-way. [319] SMATV systems are usually satellite-based and distribute television signals to households located in one or more adjacent buildings, primarily serving urban and suburban multiple dwelling units ("MDUs").[320] In general, SMATV operators are subject to less regulatory oversight than traditional cable systems.[321] Some SMATV systems use microwave transmissions and wires to serve multiple buildings that are not commonly owned.[322] 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.[323]

92. SMATV operators consist of hundreds of small and medium size firms throughout the nation.[324] Among the largest SMATV operators as of December 1999 were MidAtlantic Communications, Global Interactive Communications, Pace Electronics, Future Trak, LyncStar Integrated Communications, and OnePoint Communications Corp.[325] These relatively large SMATV operators serve between 15,000 and 55,000 subscribers each.[326] Most SMATV operators serve approximately 3,000-4,000 customers.[327]

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[318] *Id.* at 7-9. *See also* WCA Comments at 4-8 (requesting a thorough inquiry into the effects of a sunset) and 13-14.

[319] 1996 Act, sec. 301(a)(2), 47 U.S.C. § 522(7). SMATV systems do not use public rights-of-way, and thus fall outside of the Communications Act's definition of a cable system.

[320] 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. *1999 Report*, 15 FCC Rcd at 1022 ¶ 92.

[321] 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, n. 296.

[322] *Id*. 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).

[323] 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, n. 297.

[324] *Id.* at 1085 ¶ 83.

[325] *Ten Largest Private Cable Operators/Multiple System Operators*, Private Cable & Wireless Cable, Dec. 1999, at 4.

[326] *Id.*

[327] *1999 Report*, 15 FCC Rcd at 1023 ¶ 94.

According to NCTA, as of July 2000, SMATV subscribership remained relatively unchanged from a year earlier at 1.5 million subscribers.[328]

93. Currently, many private cable operators offer the same services offered by franchised cable operators, including local and long distance residential telephone service, Internet access, and digital video.[329] One source indicates that the average private cable operator offering SMATV video service usually delivers about 30-45 channels.[330] We have previously reported that SMATV operators are joining with satellite providers to combine analog antenna and DBS systems in order to increase service offerings.[331] As we reported last year, this enables SMATV operators to offer as many as 200 channels.[332] This trend continues. As of year-end 1999, 43 percent of SMATV operators said they plan to add DBS services over the next year.[333] In addition, as many as 33 percent of private cable operators offer telephony as a licensed competitive local exchange carrier ("CLEC").[334]

94. On June 22, 2000, the Commission adopted a *Report and Order* addressing the allocation of the 18 GHz band.[335] The 18 GHz band is the spectrum that SMATV operators use for microwave transmission to serve multiple buildings that are not commonly owned. SMATV operators were concerned by a proposal set forth in the foregoing *Notice of Proposed Rulemaking* that would have terminated their use of the 18 GHz band.[336] In the *Report and Order*, the Commission concluded that

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[328] NCTA Comments at 9. Last year, NCTA reported 1.45 million SMATV subscribers, which rounds to 1.5 million. *See 1999 Report,* 15 FCC Rcd at 1023-24 ¶ 95. This year NCTA reports 1.5 million SMATV subscribers. *See* NCTA Comments at 9.

[329] *See* Mor Allon, *Competition for Convergence: The Battle Cry for Bundled Services*, Private & Wireless Broadband, Sept. 2000, at 32; *see also* Gerard Lavery Lederer, *Critical Connection?*, Private & Wireless Broadband, July 2000, at 28; *1998 Report*, 13 FCC Rcd at 24342 ¶ 92; *1999 Report,* 15 FCC Rcd at 1024-25 ¶¶ 94-98. 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. *1999 Report,* 15 FCC Rcd at 1024 ¶ 96.

[330] Mor Allon, *How the PCO Can Improve the Bottom Line Providing Bundled Services to MDUs*, Private & Wireless Broadband, June 2000, at 16. Last year we reported that the number of channels being offered by SMATV operators responding to an industry poll was approximately 89 channels, with a low of 50 channels and a high of 200 channels offered. *1999 Report,* 15 FCC Rcd at 1024 ¶ 97. This figure is derived from the reports of 18 operators, and likely includes SMATV operators that offer video over a combined SMATV/DBS system.

[331] *1999 Report,* 15 FCC Rcd at 1024-25 ¶ 98. Such systems can offer residents traditional SMATV service alone, or a "bulk service" that combines traditional SMATV with select DBS feeds. Residents can also choose DBS on an a la carte basis and can thereby receive more channels than are available from bulk service. *Id.*

[332] *Id.* at 1024 ¶ 97.

[333] *Ten Largest Private Cable Operators/Multiple System Operators,* Private Cable & Wireless Cable, Dec. 1999, at 4. This information is based solely on responses to a Private Cable & Wireless Cable magazine survey.

[334] *Id.* at 5.

[335] *Redesignation of the 17.7-19.7 GHZ Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use*, IB Docket No. 98-172, Report and Order ("*18 GHz Report and Order*"), 15 FCC Rcd 13430 (2000).

[336] *18 GHz Report and Order,* 15 FCC Rcd at 13446 ¶34.

SMATV operators would not be able to compete effectively if the 18 GHz band were redesignated and ruled that all current use of this spectrum by SMATV operators may continue.[337]

95. 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.[338] Because SMATV systems do not use public rights-of-way, and are technically not cable operators, they have been ineligible for CARS licenses.[339] In addition, the Commission 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. This proceeding is still pending.

96. Two years ago, we reported that on June 4, 1998, the Commission adopted a *Memorandum Opinion and Order* granting a motion for declaratory ruling filed by Entertainment Connections Inc. ("ECI") for a determination that it was not a cable operator and did not need a franchise under section 621 of the Communications Act.[340] At issue was ECI's use of Ameritech's facilities to transport video programming across public rights-of-way to subscribers in MDUs. ECI's facilities are located solely on private property, not crossing any public rights-of-way, and Ameritech's facilities that deliver signals from ECI's headend facilities to the MDUs are not owned, managed, or controlled by ECI.[341] In December 1999, the U.S. Court of Appeals for the Seventh Circuit upheld the Commission's *Order* in full.[342] In October 2000, the U.S. Supreme Court declined to review the appellate decision.[343]

97. On October 9, 1997, the Commission adopted a *Report and Order and Second Further Notice of Proposed Rulemaking* that amended the cable inside wiring rules to provide opportunities for new entrants seeking to compete in distributing video programming, particularly MVPDs seeking to provide service in MDUs.[344] Specifically, the Commission's rules establish procedures for the disposition of cable "home run" wiring where the incumbent MVPD no longer has a legally enforceable right to remain in the building. The *Second Further Notice of Proposed Rulemaking* seeks comments on the advantages or disadvantages of exclusive contracts in promoting a competitive environment, and whether there are circumstances where the Commission should adopt restrictions on exclusive contracts in order to further promote competition in the MDU marketplace. The rules became effective on March 13, 1998, and the

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[337] *Id.* at 13450 ¶41. "In consideration of the comments … we conclude …[that] private cable operators using the 18 GHz band, for both current and future operations, will not be able to compete effectively against franchised cable operators if we redesignate the 18.3-18.55 GHz band…" *Id.*

[338] *1999 Report*, 15 FCC Rcd at 1023 ¶ 93; *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, 14 FCC Rcd 11967 (1999).

[339] 47 C.F.R. § 78.13.

[340] *See 1998 Report*, 13 FCC Rcd at 24340 ¶ 89; *see also Entertainment Connections, Inc., Motion for Declaratory Ruling*, Memorandum Opinion and Order ("*1998 ECI Ruling*"), 13 FCC Rcd at 14277 (1998).

[341] *See 1998 ECI Ruling*.

[342] *City of Chicago v. FCC*, 199 F.3d 424 (7th Cir. 1999), *cert. denied*, 121 S. Ct. 71 (2000).

[343] *Id*.

[344] *Telecommunications Services Inside Wiring, Customer Premises Equipment, Implementation of the Consumer Protection and Competition Act of 1992: Cable Home Wiring*, CS Docket No. 95-184 and MM Docket No. 92-260, Report and Order and Second Further Notice of Proposed Rulemaking ("*Inside Wiring Order*"), 13 FCC Rcd 3659 (1998).

Commission is currently reviewing the petitions for reconsideration and comments filed in this proceeding.

F. Broadcast Television Service

98. 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.[345] Since the *1999 Report*, the number of commercial and noncommercial television stations increased to 1663 as of September 30, 2000, from 1599 as of July 31, 1999.[346] Total broadcast advertising revenues reached $36.6 billion in 1999, a 5.7 percent increase over 1998.[347] Advertising revenues for the seven broadcast networks (ABC, CBS, Fox, NBC, PaxTV, UPN, and WB) alone reached $18 billion in 1999.[348] In comparison, cable programming networks earned $8.3 billion in advertising revenue in 1999, an increase of 20 percent over 1998.[349]

99. During the 1998-99 television season, ABC, CBS, Fox, and NBC accounted for a combined average 50 percent share of prime time viewing among all television households, compared to 52 percent in the previous year. UPN and WB achieved a combined eight percent share of prime time viewing, the same as last year.[350] The most recent data available for households subscribing to cable service indicate that programming originating on local broadcast television stations accounted for a combined 50.7 percent share of 24-hour viewing in the 1998-99 television season. Non-premium cable networks and pay cable services achieved a combined 56 percent share of 24-hour viewing, down from 57 percent the previous season. (Reported audience shares exceed 100 percent due to multiple set viewing.[351])

100. We reported previously on consolidation in the broadcast industry and on "repurposing" of content.[352] Repurposing of programming is becoming more common, and NBC and PaxTV in particular appear to have expanded their relationship in this regard. NBC and PaxTV have already begun delayed rebroadcasts of NBC shows on PaxTV, such as the game show *Twenty One*.[353] The two also

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

[346] *Compare* Federal Communications Commission, *Broadcast Station Totals as of August 30, 1999*, FCC News Release (Sept. 11, 1999) *with* Federal Communications Commission, *Broadcast Station Totals as of September 30, 2000*, FCC News Release (Nov. 29, 2000). Totals as of August 2000 are not available.

[347] Television Bureau of Advertising, *Total Local Market Broadcast TV Rises 1.7% in 4Q 1999* (press release), Mar. 8, 2000.

[348] *Id.*

[349] 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).

[350] *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.

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

[352] *1999 Report*, 15 FCC Rcd at 1027 ¶¶ 104-105. "Repurposing" generally involves a re-run of broadcast content on a different network (cable or broadcast) shortly after it airs originally on network affiliate stations.

[353] Comm. Daily, *Mass Media*, Mar. 16, 2000, at 11. In addition, in some markets, PaxTV carried the Major League Baseball playoffs, the rights of which are owned by NBC, while NBC stations aired the Presidential debates. Comm. Daily, *Mass Media*, Oct. 4, 2000, at 9.

agreed for the rebroadcast of NBC's *Nightly News*,[354] but suspended implementation because of complaints from NBC affiliates.[355] ABC is also involved with repurposing deals, such as showing its drama *Once and Again* on Lifetime and selling music-oriented made-for-television movies to VH1.[356]

101. As we stated in the *1999 Report*, DTV could potentially enhance the ability of broadcasters to compete in the video marketplace.[357] DTV allows broadcasters to transmit a very high quality signal (High Definition Television or HDTV), several standard definition signals ("multicasting"), or ancillary services in addition to broadcast signals. As of December 5, 2000, all of the top ten markets had at least two affiliates of the top four networks broadcasting DTV service, and six of those markets had all of the affiliates of the top four networks broadcasting DTV. One or more affiliates in Chicago, New York City, Dallas, and Boston have been granted extensions to complete construction.[358] 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 5, 2000, 19 of these DTV permittees have filed requests for extension of time to construct their facilities; 57 have completed construction and are on the air; 9 have special temporary authority to be on the air with DTV pending final action on their application. As of December 5, 2000, over 800 DTV construction permit applications had been acted upon. At present, 173 stations broadcast DTV signals.[359]

102. Current use of DTV spectrum involves simultaneous broadcast of standard definition signals. For instance, 17 of the 18 comedy and drama series on CBS will be available in HDTV, with sponsorship by the digital television set producer Panasonic.[360] ABC broadcasts "The Wonderful World of Disney" and "Monday Night Football" in HDTV, and NBC broadcasts "The Tonight Show with Jay Leno" and some movies in HDTV.[361] Possible new broadcasting services using DTV include HDTV, multicasting, combining frequencies to provide packages of services, and interactive services such as delivering Internet content to computers. We previously reported on Geocast's plans to use Hearst-Argyle DTV spectrum to deliver Internet content to computers.[362] In addition, broadcasters have formed two additional consortia to combine DTV spectrum to allow third parties to deliver services to consumers, including content delivery to televisions and computers.[363]

103. Despite this potential, obstacles have impeded progress toward DTV transition. At the time of the *1999 Report*, among the four unresolved issues concerning DTV between the broadcast

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[354] Comm. Daily, *PAXTV To Air Brokaw Nightly News Minutes After NBC Affliliates*, Apr. 19, 2000, at 6.

[355] Comm. Daily, *Mass Media*, May 2, 2000, at 8.

[356] Jennifer Pendelton, *ABC Claims Cable Repeats No Cannibalization*, Cable World, Jan. 24, 2000, at 18.

[357] *1999 Report*, 15 FCC Rcd at 1028 ¶¶ 106.

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

[359] *Id*.

[360] Comm. Daily, *Mass Media*, Sept. 29, 2000, at 8. *See also* Glen Dickson, *CBS Boosts Prime Time HDTV*, Broadcasting & Cable, Aug. 28, 2000, at 68.

[361] Jerry Ascieto, *HDTV Around the Dial*, ElectronicNews, May 15, 2000, located at http://www.electronicnews.com/issue/Registeredissues/2000/05152000/z54f-3.asp (visited Dec. 1, 2000).

[362] *Id.*

[363] KaganBROADBAND, *Broadcasters: Backatcha, Cable & DSL*, Mar. 23, 2000, at 1. The consortia are named the "Broadcaster's Digital Cooperative" and "iBLAST."

industry, the cable industry, and the consumer electronics industry: (1) direct connection of DTV receivers to digital cable televisions; (2) the provision of tuning and program schedule information to support on-screen program guides; (3) the labeling of DTV receivers; and (4) copy protection. The first two issues were largely resolved in an agreement embodied in a February 22, 2000, letter to the Commission from the heads of NCTA and the Consumer Electronics Association. This agreement provided for technical specifications that permit the direct connection of DTV receivers to cable television systems, including signal levels and quality, and video formats. The agreement also selected the Program and System Information Protocol to support on-screen program guides.[364] The third issue was resolved by a Commission order adopted on September 14, 2000, which established three categories of DTV receivers.[365] The categories are designed to ensure that consumers will be fully informed about the capabilities of DTV receivers to operate with cable television systems.[366] The fourth issue, copy protection, remains a point of contention, and the Commission continues to monitor industry progress on its resolution.[367] In addition, the Commission continues to examine digital broadcast signal carriage issues, raised in the DTV Must Carry Notice.[368]

104. We previously reported on disputes over the current DTV broadcasting standard (8-Level Vestigial Side-Band Standard ("8-VSB")), and a petition by Sinclair to switch to another (Coded Orthogonal Frequency Division Multiplex ("COFDM")).[369] On February 4, 2000, the Commission rejected Sinclair's petition to switch to the COFDM standard, stating that numerous studies support using 8-VSB for DTV signals.[370] Subsequently, the Advanced Television Systems Committee announced that it would form a task force on DTV reception.[371]

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[364] *See* National Cable Television Association, *CEA and NCTA Reach Agreement Enabling Compatibility Between Cable Television Systems And Digital Televisions* (press release), Feb. 23, 2000.

[365] *See* Federal Communications Commission, *FCC Adopts Rules For Labeling Of DTV Receivers*, FCC News Release (Sept. 14, 2000).

[366] *Id.*

[367] On September 14, 2000, the Commission determined that some measure of anti-copying encryption technology located within a host navigation device is consistent with the Commission's navigation devices rules, but that determination of whether particular implementations of copyright protection are consistent with these rules is best resolved in a narrow declaratory ruling. *See Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigation Devices*, 15 FCC Rcd 18199 (2000).

[368] *See Carriage of the Transmissions of Digital Television Broadcast Stations*, CS Docket No. 98-120, Notice of Proposed Rule Making, 13 FCC Rcd 15092 (1998).

[369] *1999 Report*, 15 FCC Rcd at 1029 ¶ 108.

[370] Federal Communications Commission, *FCC Denies Sinclair Petition For Rulemaking On COFDM Standard*, FCC News Release (Oct. 24, 2000). Separately, in a July 24, 2000, letter, Chairman Kennard urged the broadcast industry not to switch DTV transmission standards, because such a switch, "…at this late date could lead to lengthy and unacceptable delays in the DTV transition process and could undermine the service replication and interference goals on which the DTV transition is based." *See* Letter from William E. Kennard, Chairman, FCC, to Edward O. Fritts, President and CEO, National Association of Broadcasters, July 24, 2000. The Commission invited comment on the current status of the DTV broadcasting standard in a biennial review of the DTV transition, including information on any additional studies conducted regarding NTSC replication using the 8-VSB standard. It specifically asked for comments on progress being made to improve indoor DTV reception under this standard, and manufacturers' efforts to implement DTV design or chip improvements. *See Review of the Commission's Rules and Policies Affecting The Conversion To Digital Television*, MM Docket No. 00-39, Notice of Proposed Rule Making, 15 FCC Rcd 5257 (2000).

[371] Comm. Daily, *ATSC Forms Task Force To Study RF System Performance*, Mar. 22, 2000, at 1-2.

105. ***Barriers to Competition***. Two commenters raise issues that relate to broadcasters' ability to compete with other MVPD providers. The first, Fox, argues generally that the trend toward competition and diversity in the video marketplace is continuing, but portions of the Commission's broadcast regulatory framework are based on an "an archaic vision of the market that bears no resemblance to today's competitive realities."[372] Fox urges the Commission to accelerate and broaden the relaxation of its regulations so that they reflect a more competitive marketplace.[373] Paxson raises issues relating to the transition to DTV. Paxson urges the Commission to take steps to ensure that the transition to DTV is successful, including "…to promote, protect, and facilitate digital video multicasting."[374] Paxson also asks that the Commission, before November 13, 2000, put in place digital cable compatibility and copyright protection standards, begin adopting digital receiver standards, detail the technical requirements for digital must carry, and mandate that all televisions be capable of receiving digital and analog broadcast signals.[375] Also, Paxson requests that the Commission determine that the existing DTV modulation standard will result in reliable reception, or permit use of an alternative standard or dual modulation standards.[376] Finally, Paxson asserts that "[a]ll DTV broadcasters should have enforceable full digital must carry rights for cable, DTH, and all subscription-based multichannel video providers."[377]

106. The continuing disputes detailed above, and, possibly, the high cost of digital television sets, have combined to slow consumer acceptance of and transition to DTV.[378] As a result, broadcasters have only engaged in limited tests of various possible DTV products, such as HDTV, ancillary services, or some combination. It is therefore impossible to assess the competitive impact of DTV service on the MVPD market, other than to observe that the potential for a positive competitive impact remains.

G. Other Entrants

1. Internet Video

107. Real-time and downloadable video accessible over the Internet ("Internet video") continues to become more widely available.[379] The number of homes with access to the Internet and the number of home users accessing Internet video have both increased over the last year, as has the amount of available content. As of November 2000, 56 percent of the U. S. population had Web access from home.[380] By November 2000, 35 million residential Web users had accessed streaming media, up 67 percent from November 1999 when only 21 million users had accessed streaming media[381] However,

[372] Fox Comments at 2.

[373] *Id.*

[374] Paxson Comments at 5-6.

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

[376] *Id.* at 9.

[377] *Id.* at 10.

[378] Fewer than 50,000 viewers have purchased receivers necessary to watch over-the-air DTV broadcasts. Bill McConnell, The Cable Standard, Broadcasting & Cable, Sept. 4, 2000, at 52.

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

[380] Nielsen Net Ratings, Inc., *Internet Access Tops 56 Percent in U.S., According to Nielsen/NetRatings* (press release), Dec. 18, 2000.

[381] *Streaming Media Use Grows to New High According to Nielsen-Net Ratings*, Cyber Atlas, Dec. 12, 2000, at www/cyberatlas.internet.com/big_picture/demographics/article/0,1323,5931_533211,00.html.

despite the evidence of increased interest in Internet video deployment and use, the medium is still not seen as a direct competitor to traditional video services. Television-quality Internet video service requires a high-speed broadband connection of about 300 kbps or higher, which most current broadband providers cannot yet guarantee.[382] In addition, deployment of broadband is not yet ubiquitous.[383] Nevertheless, there have been a number of significant legal, technological, and business developments over the past year to report.

108. On June 8, 1999, Internet Ventures, Inc. and Internet On-Ramp, Inc. (collectively "IVI"), filed a Petition for Declaratory Ruling, requesting that the Commission issue a ruling that Internet service providers, such as IVI, are entitled to commercial leased access under section 612 of the Communications Act.[384] In its Petition, IVI contends that the availability over the Internet of television broadcast stations and films through "streaming technology" demonstrates that the Internet provides the same video programming that television broadcast stations provide, and as such, ISPs are providers of video programming under section 612.[385]

109. On February 18, 2000, the Commission issued a *Memorandum Opinion and Order*, that concluded that ISP Internet access service, such as that provided by IVI, does not constitute video programming as contemplated by section 612 of the Communications Act (i.e., programming provided by, or generally considered comparable to programming provided by, a television broadcast station).[386] The Commission noted that Congress did not expressly state that the leased access provisions require cable operators to make channel capacity available for anything other than video programming and, accordingly, section 612 cannot be read as requiring a cable operator to make channel capacity available to provide services that are not video programming, such as the Internet access service provided by IVI and other ISPs.[387] The Commission declined to rule beyond the issue of whether the Internet provides the video programming comparable to that provided by television broadcast stations.[388]

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[382] Some investment analysts remain skeptical of streaming video, arguing that the quality of streaming media, especially in the prevalent 56 kbps modem connections, is not of sufficient quality to maintain consumer interest for long periods of time. One analyst notes that consumers would need at least 128 kbps, if not 200 kbps, to get quality streaming media. Even then, another analyst notes that the technical limitations of IP to deliver video must be addressed and the public network must be upgraded to avoid bottlenecks. In addition, consumer access to broadband connections is still limited, and in some parts of the United States, broadband access is nonexistent. Antone Ginsalves, *Streaming Media Appeals To Wall Street*, TECHWEB FINANCE, June 2, 2000, at http://www.techweb.com/printableArticle?doc_id=INV20000602S000; *see also* Paul Kagan Assocs., Inc., *On2.com Launches TV Programming on Net*, Kagan Broadband, Jan. 19, 2000, at 2.

[383] *Second Inquiry Concerning the Deployment of Advanced Telecommunications Capability Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket No. 98-146, Second Report, FCC 00-290 (rel. Aug. 21, 2000) at Appendices D-1 to D-4.

[384] 47 C.F.R. § 532; *see Petition Seeking Declaratory Ruling that Internet Service Providers are Entitled to Commercial Leased Access to Cable Facilities Under Section 612 of the Communications Act of 1934, as Amended*, Public Notice ("*IVI Petition*"), 14 FCC Rcd 9101 (1999).

[385] *Id*. *See also Internet Ventures, Inc., Internet On-Ramp, Inc., Petition for Declaratory Ruling that Internet Service Providers are Entitled to Leased Access to Cable Facilities Under Section 612 of the Communications Act*, File No. CSR-5407-L, Memorandum Opinion and Order ("*IVI Order*"), 15 FCC Rcd 3247, 3250 ¶ 6 (2000).

[386] *IVI Order*, 15 FCC Rcd at 3253 ¶ 12.

[387] *Id.* at 3254 ¶ 13.

[388] *Id.* "Admittedly we might face a different set of issues if IVI, or another ISP, proposed to utilize leased access capacity for the provision of a service comprised wholly of video programming available via the Internet." *Id.*

110. Some Internet video firms have recently faced difficulties with U.S. copyright laws. In June 2000, a lawsuit was filed in a U.S. District Court of Los Angeles by a dozen entertainment companies accusing the Web site, Record TV.com, of illegally using copyrighted television shows from a Los Angeles-area cable signal.[389] Among other things, the lawsuit seeks to shut down the Web site, which allows users to record and replay shows online for free.[390]

111. Canadian-based iCraveTV agreed to shut down in February 2000, in return for the withdrawal of copyright infringement lawsuits against it in the United States.[391] JumpTV, successor to iCraveTV, has announced plans to stream U.S. television signals to Internet users in Canada using a new technology designed to prevent American residents from accessing its Web content.[392] JumpTV hopes the new technology will help it avoid U.S. Copyright violations. However, JumpTV is currently facing copyright issues in Canada.[393]

112. Despite these obstacles, Internet users continue to download and use software for accessing Internet video, and Web sites dedicated to streaming video continue to proliferate.[394] For example, RealNetworks' RealPlayer, the dominant software program for accessing Internet video, has over 25.3 million users.[395] Microsoft's Windows Media Player has more than 9.4 million users, and Apple's QuickTime has more than 7.2 million users.[396] In addition, Web sites continue to increase offerings. NBC, for example, is planning to offer streaming video versions of daily newscasts from its owned-and-operated stations via its Web sites.[397] Partnerships and marketing agreements between Web sites and traditional video providers have also emerged. Television.com has agreements with at least 10 broadcast and cable networks to test its plan to carry promotional videos and other programming on its television portal site.[398]

113. As Web sites designed to provide video over the Internet increase in number, technological firms and services continue to facilitate streaming video and address its weaknesses. iBEAM Broadcasting's specially designed network offers DSL and cable operators 100 percent streaming video availability for over 500,000 simultaneous Internet users, with one million simultaneous streams

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[389] Anna Wilde Mathews, *Movie Studios Sue Web Site Offering TV-show Replays*, THE WALL STREET JOURNAL ON MSNBC, at http://www.msnbc.com/news/421507.asp; Borland, *Hollywood Cracks Down on Web VCR Site*, CNET News.com, June 15, 2000, at http://news.cnet.com/news/0-1004-202-2086951.html.

[390] Anna Wilde Mathews, *Movie Studios Sue Web Site Offering TV-show Replays*, THE WALL STREET JOURNAL ON MSNBC, at http://www.msnbc.com/news/421507.asp.

[391] *Id.*

[392] *JumpTV Planning to Stream U.S. TV Stations, But Only Into Canada*, Comm Daily, Sept. 26, 2000, at 2.

[393] *New Media*, Comm. Daily, Oct. 27, 2000, at 8.

[394] http://www.icast.com; http://www.tvontheweb.com; http:// www.breaktv.com; http://www.feedroom./com; http://www.fastv.com.

[395] RealNetworks, Inc., *RealNetworks Widens Lead in Media Player Usage* (press release), July 17, 2000; *see also* http://www.realnetworks.com.

[396] Karen Brown, *Streaming Kings*, Cable World, June 12, 2000, at 14; *see also* http://www.microsoft.com/windows/windowsmedia/en/default.asp; *see also* http://www.apple.com/quicktime/.

[397] New Media, Comm Daily, Aug. 3, 2000, at 9.

[398] *Television.com Plugs In Partners*, ADWEEK ONLINE, June 23, 2000, at www.adweek.com/daily/June/iq/iq062000-46.asp.

expected possible by year-end 2000.[399] Arbitron has now joined Lariat Software in offering a service that measures and reports the viewership of streaming video.[400] In addition, ChannelSeek and The Media Channel continue to catalogue and list available Internet video programming.[401]

2. Home Video Sales and Rentals

114. The home video marketplace includes the sale and rental of videocassettes, DVDs (formerly called digital video or versatile discs) and laser discs.[402] As in past reports, we consider home video sales and rentals part of the video marketplace because they provide services similar to the premium and pay-per-view offerings of MVPDs.[403] The home video industry considers cable television, direct broadcast satellite services, and broadcast television as its competition.[404] It also views the developing near video on demand and video on demand services of MVPDs and streaming video over the Internet as potential competition.[405]

115. Almost 86 percent of all U.S. households have at least one VCR, with nearly half of these homes owning at least two VCRs.[406] By the end of 2000, the number of homes with DVD players is expected to reach between 10 and 12 million, up from 4.5 million a year earlier.[407] In addition, about two million homes have laser disc players.[408] U.S. consumers spent $17.36 billion renting and buying prerecorded video in 1999, 2.4 percent more than in 1998.[409] Total rental revenue increased from $8.10

[399] iBeam Broadcasting Corp., *Form 10-Q for the Quarter-ended June 30, 2000*, Overview at 12; *see also* Matt Stump, *iBeam's Streaming Strategy*, Cable World, Feb. 21, 2000, at 24.

[400] S*ee* http://www.lariat.com; http://internet.arbitron.com/webcast_index.htm.

[401] *1999 Report*, 15 FCC Rcd at 1031 ¶ 112; *see also* http://www.mediachannel.com/info.htm; http://www.channelseek.com.

[402] 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. For example, in 1999, 2,677 titles were released in DVD format, 41 percent of these were theatrical films, 16 percent were direct to video titles, and 43 percent were special interest, music, foreign language, or other type of title. Video Software Dealers Association, *An Annual Report on the Home Video Market 2000* ("VSDA Report") at 10.

[403] *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. *See also 1997 Report*, 13 FCC Rcd at 1096-7 ¶¶ 103-4 (premium and pay-per-view cable services are not regulated because they are competitive with the home video sales and rental market).

[404] Viacom Inc., SEC Form 10-K405, March 24, 2000 ("Viacom 10-K"); Hollywood Entertainment Corp., SEC Form 10-K; March 30, 2000 ("Hollywood Entertainment 10-K"); Blockbuster Inc., SEC Form 10-K405, March 24, 2000 ("Blockbuster 10-K"). In August 2000, Blockbuster began selling DirecTV equipment and programming packages and it plans to test a video-on-demand service for movies and video games next year. *Satellite Business News Fax Update*, August 25, 2000; *New Media*, Communications Daily, Oct. 27, 2000, at 8; Martha McNeil Hamilton, *Blockbuster Branches Out*, Washington Post, Sept.19, 2000, at E1.

[405] VSDA Report at 23-25; Hollywood Entertainment 10-K; Viacom 10-K; Blockbuster 10-K.

[406] Blockbuster 10-K and Hollywood Entertainment 10-K *citing* Paul Kagan Associates statistics. *See also* VSDA Report at 9.

[407] VSDA Report at 3, 15. In 1998, the average DVD player sold for $428 and in 1999 the average price was $298.

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

billion in 1998 to $8.12 billion in 1999, with DVDs representing between five and ten percent of the overall rental business.[410] Total revenue from video sales increased to $9.24 billion in 1999, up from $8.86 billion in 1998, with DVDs accounting for about 16 percent of that total.[411]

116. There are between 24,000 and 25,000 video specialty stores selling or renting home video programming.[412] There also are another 8,000 to 10,000 retail outlets, primarily supermarkets and drug stores, that rent videos, but their numbers are declining.[413] Discount department stores, including Wal-Mart and Target, and large electronic discount chains, such as Best Buy and Circuit City, compete with specialty video stores in the sale of videos.[414] Over the past two years, the video retail industry has undergone a period of consolidation, with many independent operators selling to larger concerns or closing their businesses.[415] The five largest video store chains had a 41 percent market share of all video rentals in 1998.[416] The largest stores can carry as many as 8,000 titles and 15,000 videocassettes, DVDs, and video games.[417] The video retail industry is the largest source of revenue for movie studios, generating approximately $11.8 billion in 1999, three times the revenue received from theatrical distribution.[418] In addition, since 1997, several video retailers have entered into revenue sharing arrangements with major movie studios under which they lease videos in return for a percentage of the rental revenue.[419]

117. The Internet is opening up new possibilities for the video rental business by letting consumers search a store's inventory and reserve a movie online before going to the store to pick it up, although it is having a more noticeable impact on video sales.[420] In particular, several of the largest video retailers sell video programming through Internet sites.[421] Approximately $400 million worth of videos

(…continued from previous page)

[409] VSDA Report at 5.

[410] *Id*. at 5, 7-8. This increase is primarily attributable to an increase in prices charged since the number of total transactions fell slightly in 1999.

[411] VSDA Report at 8.

[412] *Id*. at 11.

[413] *Id*. at 12. Videos also can be borrowed from public libraries.

[414] VSDA Report at 17; Blockbuster 10-K.

[415] VSDA Report at 4, 12

[416] Hollywood Entertainment 10-K *citing* Video Store Magazine and Paul Kagan.

[417] *1999 Report*, 15 FCC Rcd at 1033-4 ¶ 117. *See also* Hollywood Entertainment 10-K; Blockbuster 10-K (new stores carry about 4,500 titles).

[418] VSDA Report at 13. *See also* Hollywood Entertainment 10-K.

[419] *1998 Report*, 13 FCC Rcd at 24350-1 ¶ 106. *See also* VSDA Report at 14; Hollywood Entertainment 10-K; Viacom 10-K.

[420] VSDA Report at 3-4, 16. Blockbuster is experimenting with a video reservation system in Denver and Austin. *See* http://www.blockbuster.com. Alternatively, for a monthly fee, Netflix allows consumers to rent videos from its Internet site with the videos sent to the consumer and returned to the company through the mail. *See* http://www.netflix.com.

[421] For example, Hollywood Entertainment acquired Reel.com in order to electronically deliver entertainment products directly to homes. 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. Express.com is limited to the sales of DVDs. *See* http://www.express.com.

(VHS and DVD) were sold online in 1999.[422] In addition, traditional video retailers are exploring various alternative forms of electronic entertainment delivery, including video on demand.[423]

118. Last year, we reported on a new home video technology, the personal video recorder ("PVR"), offered by two companies, TiVo, Inc. and Replay TV Inc. (formerly Replay Networks).[424] A PVR is a device connected to a television set that uses a hard disk drive, software, and other technology to digitally record and access programming. PVR technology allows a consumer to pause, replay, rewind, fast forward and otherwise time-shift even live television programs.[425] While PVRs cannot play prerecorded videocassettes or DVDs, they make it relatively simple to record pay-per-view signals from digital platforms, such as DBS, and provide the user with the same level of control over the playback of a movie as home video provides.[426] One source reports that 95,000 PVRs have been sold thus far.[427] Other sources provide widely varying estimates, from 100,000 to 750,000, for the number of homes with PVRs by year end 2000.[428] In the last year, TiVo and ReplayTV have joined with MVPDs, equipment manufacturers, advertisers, and programmers to incorporate PVR technology into set-top boxes and develop content specifically for PVRs.[429] For example, both PVR services have entered into agreements with major cable MSOs to offer their services to subscribers.[430] Universal Pictures is partnering with ReplayTV for an interactive advertising campaign and TiVo established a program that allows advertisers to load up to 30 minutes of content onto the TiVo hard drive.[431] Also, a combined DBS/PVR receiver, developed by TiVo and DirecTV, became available in the fall of 2000.[432] In addition, EchoStar offers a

[422] VSDA Report at 20. Amazon.com led all online retailers with $64 million in VHS and DVD sales in 1999, followed by Express.com with $60 million, and Hollywood Entertainment's Reel.com with $40 million in sales. *Id*.

[423] Blockbuster 10-K (in conjunction with AOL, Blockbuster is developing broadband content and delivery and considering video-on-demand, near video-on-demand, subscription video-on-demand, and games-on-demand).

[424] *1999 Report*, 15 FCC Rcd at 1035 ¶ 119.

[425] TiVo Inc., SEC Form 10-K405, March 30, 2000 ("TiVo 10-K"); ReplayTV Inc., SEC Form S-1/A, May 1, 2000 ("ReplayTV S-1/a").

[426] VSDA Report at 24.

[427] *See* Mike Musgrove, *ReplayTV to Cut Staff, Exit Retail Business*, Washington Post, Nov. 29, 2000, at E4.

[428] Jim Forkan, *PVRs Are Stirring Advertising Unrest*, Multichannel News, April 10, 2000; Glen Dickson, *Forrester Foresees "Smart TV"*, Broadcasting & Cable, July 17, 2000, at 10. Michael Lewis, *Boom Box*, New York Times Magazine, August 13, 2000, at 40. ReplayTV indicates that it had shipped only 9,000 units through March 31, 2000, when its PVRs became available in retail stores as well as through a toll-free number and the Internet. ReplayTV S-1/A.

[429] TiVo 10-K; ReplayTV S-1/A. *See also* Peter J. Brown, *PVRs: Content Control*, Broadcasting & Cable, July 10, 2000, at 38.

[430] *TiVo, Replay Launch Cable-PVR Trials*, Television Digest, August 14, 2000. For example, ReplayTV has agreements with Time Warner and Comcast and TiVo has agreements with Cox and Comcast. *See also* Glen Dickson, *ReplayTV Tackles Cable with Charter, Motorola*, Broadcasting & Cable, Oct. 9, 2000, at 48.

[431] Glen Dickson, *Ads With a Personal Touch*, Broadcasting & Cable, Sept. 4, 2000, at 34; Glen Dickson, *TiVo Enters Ad Arena*, Broadcasting & Cable, Sept. 25, 2000, at 45.

[432] Glen Dickson, *ReplayTV Tackles Cable with Charter, Motorola*, Broadcasting & Cable, Oct. 9, 2000, at 48; John M. Higgins, *Sprucing up for a Sale*, Broadcasting & Cable, Oct. 16, 2000, at 32. DirecTV plans to create a video on demand service using this technology. Mark Seavy, *DirecTV Enters VoD, Though Not Necessarily with Movie Content*, Communications Daily, Oct. 30, 2000, at 3-4.

set-top box, the DISHPlayer, with PVR capabilities.[433] In this regard, recently ReplayTV announced that it would no longer sell PVRs directly to consumers, and that it would focus on licensing its technology to cable and other television-oriented companies.[434]

H. Local Exchange Carriers

119. 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;[435] (2) provide transmission of video programming on a common carrier basis under Title II of the Communications Act;[436] (3) provide video programming as a cable system under Title VI of the Communications Act;[437] or (4) provide video programming by means of an open video system ("OVS").[438]

120. In the *1999 Report*, we noted that it appeared that the rate of entry might have been slowing by even the most aggressive LECs, and that several LECs had reduced or eliminated their MVPD efforts.[439] This trend continued and accelerated this year. Most incumbent local exchange carriers ("ILECs") are seeking to sell their MVPD facilities, preferring instead to market DBS services to their customers.[440] The exception to this trend is BellSouth, which continues to pursue a number of methods for providing MVPD service. Overall, it appears that there is a diminished likelihood that ILECs will be a major competitive force in the MVPD market, at least not over ILEC-owned and operated facilities. Some companies that function as competitive local exchange carriers ("CLECs"), most notably RCN,[441] however, continue to pursue MVPD entry and competition aggressively.

121. ***MMDS***. BellSouth had been the largest LEC investor in MMDS licenses and systems.[442] Since the *1999 Report*, BellSouth has launched digital MMDS services in Jacksonville and Daytona

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[433] http://www.dishnetwork.com/content/products/dplayer/compaison/index.shtml. WebTV Personal TV service is an additional option offered with EchoStar's DISHPlayer service. *See also* http://www.webtv.com/products/index.html; Walt Mossberg, *A Better, Cheaper Way To Bring Your TV Set Into the Digital* Age, The Wall Street Journal, March 23, 2000, at B1.

[434] ReplayTV, *ReplayTV Inc. Announces Strategic Direction for Future* (press release), Nov. 27, 2000, http://www.replaytv.com/news/pressrelease33.htm. *See also* Mike Musgrove, *ReplayTV to Cut Staff, Exit Retail Business*, Washington Post, Nov. 29, 2000, at E4.

[435] 47 U.S.C. § 571(a)(1).

[436] 47 U.S.C. § 571(a)(2).

[437] 47 U.S.C. § 571(a)(3).

[438] 47 U.S.C. § 571(a)(3)-(4).

[439] *1999 Report*, 15 FCC Rcd at 1036 ¶ 121.

[440] *See* ¶ 129 *infra*.

[441] RCN recently announced, however, that it was not going to launch or seek new franchises or open video certifications in response to tighter capital markets. It will instead concentrate on building out and increasing penetration in existing systems. RCN, *RCN Outlines 2001 Plans for Growing Its Local Broadband Business* (press release), Dec. 21, 2000.

[442] *1998 Report*, 13 FCC Rcd at 24354 ¶ 112.

Beach, Florida.[443] BellSouth's MMDS service areas cover approximately 3.5 million homes in Florida, Georgia, Louisiana, and Kentucky.[444] BellSouth announced in December 2000, however, that it would shut down its MMDS systems, and transition its subscribers to EchoStar's DBS service.[445] In addition, as previously reported, GTE operates a digital MMDS system in Oahu, Hawaii.[446] Following its merger with Bell Atlantic,[447] however, GTE (now Verizon) reportedly is seeking to sell all of its video programming assets.[448]

122. ***In-Region Cable Franchises***. Previously, Ameritech had been the most significant LEC provider of in-region cable service.[449] In the *1999 Report*, we indicated that Ameritech, now owned by SBC, had suspended deployment of new cable operations and suspended negotiation of new franchise agreements.[450] More recent news reports indicate that SBC is seeking to sell Ameritech's cable assets. These reports indicate that SBC is considering three options: (1) selling the cable systems; (2) entering into a joint venture for the cable operations and retaining some of the fiber for telecommunications uses; or (3) continuing operation of the cable systems, but without signing new franchises.[451] No final determination by SBC on these options has been reported.

123. At the time of the *1999 Report*, in addition to its MMDS properties, BellSouth had acquired 21 cable franchises with the potential to pass 1.4 million homes, was providing cable service in 12 of its franchise areas, and was negotiating with localities for additional franchises.[452] This remains the

[443] As reported previously, BellSouth also serves New Orleans, Atlanta, and Orlando, Florida, with digital MMDS systems. BellSouth further reports that it offers analog MMDS service in Ft. Myers and Lakeland, Florida, and Louisville, Kentucky. BellSouth Comments at 2. *See also 1999 Report*, 15 FCC Rcd at 1036 ¶ 122.

[444] BellSouth Comments at 2.

[445] *See* Letter from Karen B. Possner, Vice President – Strategic Policy, BellSouth Corp., to William Johnson, Deputy Bureau Chief, Cable Services Bureau, FCC, Dec. 19, 2000. *See also* BellSouth Corp., *BellSouth Updates Plans for Restructuring its Video Entertainment Service* (press release), Dec. 19, 2000.

[446] *1998 Report*, 13 FCC Rcd at 24534 ¶ 112.

[447] Verizon Communications, *Bell Atlantic and GTE Complete Their Merger and Become Verizon Communications* (press release), June 30, 2000.

[448] *See* Comm. Daily, *MSOs and Overbuilders Weigh Buying SBC, Verizon Cable Units*, Aug. 3, 2000, at 2. *See also* TR Daily, *Verizon Trying to Unload GTE Cable TV Assets*, July 3, 2000.

[449] *1999 Report*, 15 FCC Rcd at 1036-37 ¶ 123.

[450] Comm. Daily, *SBC Considering Sale of Ameritech Cable Systems*, Mar. 9, 2000, at 4. *See also* Comm. Daily, *MSOs and Overbuilders Weigh Buying SBC, Verizon Cable Units*, Aug. 3, 2000, at 2.

[451] *Id*.

[452] *1999 Report*, 15 FCC Rcd at 1037 ¶ 124. The active franchises are located in: Vestavia Hills, Alabama; St. John's 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. BellSouth has indicated that its plans to shut down its MMDS systems will not affect its cable franchises. *See* Letter from Karen B. Possner, Vice President – Strategic Policy, BellSouth Corp., to William Johnson, Deputy Bureau Chief, Cable Services Bureau, FCC, Dec. 19, 2000. *See also* BellSouth Corp., *BellSouth Updates Plans for Restructuring its Video Entertainment Service* (press release), Dec. 19, 2000.

case.[453] We previously reported that GTE held ten competitive cable franchises, and one non-competitive franchise.[454] As stated above, however, Verizon is seeking to sell these assets.[455]

124. SNET, now also owned by SBC Communications, holds a statewide cable franchise in Connecticut, and currently offers service to 30,000 subscribers in 29 localities.[456] We previously reported that, 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 network.[457] Subsequently, SNET filed with the DPUC for permission to discontinue cable television service in Connecticut.[458] This application is currently unresolved, and it is unclear what will ultimately happen to SNET's existing video assets.

125. U S West offers video, high-speed Internet access, and telephone service over existing copper telephone lines using very high speed digital subscriber line ("VDSL") in Omaha, Nebraska, and Phoenix, Arizona. U S West remains the only company in the country using VDSL for video distribution, and reportedly has 31,000 subscribers in Phoenix and 20,000 in Omaha.[459] Following U S West's merger with Qwest,[460] however, Qwest CEO Joseph Nacchio indicated in an interview that the company would halt expansion of VDSL service until the capital costs of setting up the service fall by 40 percent per subscriber.[461]

126. ***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 25 OVS operators to offer OVS service in 50 areas, with some of the areas overlapping.[462]

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[453] BellSouth Comments at 2.

[454] *1998 Report*, 13 FCC Rcd at 24355 ¶ 114.

[455] *See* fn. 448 *supra*.

[456] SNET Corp, http://www.snet.com/americast/amermain.htm. *See also* TR Daily, *SNET Exiting Connecticut Cable TV Market*, Aug. 11, 2000.

[457] 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.

[458] State of Connecticut, Department of Public Utility Control, *Application of of Southern New England Telecommunications Corporation's and SNET Personal Vision, Inc.'s Notice of Intent to Exit the Community Antenna Television Business and Request to Relinquish SNET Personal Vision, Inc.'s Certificate of Public Convenience*, Docket No. 00-08-14, Aug. 11, 2000. SNET told its video customers that it will offer them DBS service, or help them switch to another cable television service. TR Daily, *SNET Exiting Connecticut Cable TV Market*, Aug. 11, 2000. Connecticut Broadband, a subsidiary of Connecticut Telephone & Communications Systems, reportedly has offered to purchase SNET's cable network. Comm. Daily, *Mass Media*, Sept. 22, 2000, at 8.

[459] KaganBROADBAND, *Qwest Merger May Be VDSL Downfall*, July 5, 2000, at 1.

[460] Qwest Communications International Inc., *Qwest Communications Completes Merger With U S West, Creating $85 Billion Broadband Internet Communications Competitor* (press release), June 30, 2000.

[461] KaganBROADBAND, *Qwest Takes Wait-and-See on VDSL*, Sept. 8, 2000, at 1.

[462] 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.

127. RCN is by far the largest OVS operator in the country, both in terms of certifications and in number of subscribers.[463] RCN operates OVS facilities in New York City, Washington, D.C., Gaithersburg, Maryland, South San Francisco, California, and some of the suburbs surrounding Boston.[464] RCN has additionally been certified as an OVS operator in the city of Boston, Northern New Jersey, Philadelphia, Los Angeles, Chicago, Portland, Oregon, Seattle, Washington, and Phoenix, Arizona.[465] RCN reports that it prefers to initiate service as an OVS operator, but that it will switch to a traditional cable franchise if the local franchising authority prefers.[466] Thus, in some of the areas listed above, such as Boston, RCN started out as an OVS operator, but subsequently became a Title VI franchisee after negotiations with the local franchising authority. RCN reports that it has 292,000 video subscribers, but does not indicate how many of these subscribers are served over OVS.[467]

128. RCN reports that its business plan is unique in three ways. The first is that the networks that RCN is building are the most advanced in the world.[468] Second, RCN's business plan is dependent upon delivering bundles of service (i.e., video, high-speed Internet, and local and long distance telephone together) to customers as opposed to individual services, thus generating multiple revenue streams and higher penetration rates.[469] Third, RCN is concentrating on entering markets with high population densities, thus lowering the per customer cost of offering service.[470]

129. ***Satellite***. We have previously reported on LEC efforts to market DBS services.[471] These cross-marketing efforts continue. In addition, this year BellSouth announced that it would begin its own medium-power satellite service.[472] BellSouth later indicated, however, that it would not launch the service.[473]

130. ***Barriers to Competition***. RCN reports that it is experiencing multiple barriers to competitive entry. It claims that the major barriers are anticompetitive tactics of incumbent cable companies, delays in gaining access to local rights-of-way, pole attachment delays and excessive rates,

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[463] As indicated above, however, RCN recently announced that it was not going to launch or seek new franchises or open video certifications in response to tighter capital markets. It will instead concentrate on building out and increasing penetration in existing systems. RCN, *RCN Outlines 2001 Plans for Growing Its Local Broadband Business* (press release), Dec. 21, 2000.

[464] RCN Comments at 4.

[465] *Id.*

[466] *Id.* at 5. *See also* American Broadband Comments at 2-3 and n. 2 (stating the opposite, that American Broadband prefers to seek cable franchises).

[467] RCN Comments at 4.

[468] *Id.* at 3.

[469] *Id.* at 3-4.

[470] *Id.*

[471] *1998 Report*, 13 FCC Rcd at 24331-2 ¶ 74.

[472] BellSouth Corp., *BellSouth Announces Major Home Entertainment Initiative, Building an Even Bigger Bundle of Services* (press release), May 9, 2000. *See also* Comm. Daily, *Bellsouth To Provide Own Satellite TV Service*, May 10, 2000, at 1.

[473] *See* Letter from Karen B. Possner, Vice President – Strategic Policy, BellSouth Corp., to William Johnson, Deputy Bureau Chief, Cable Services Bureau, FCC, Dec. 19, 2000.

adverse or delayed Commission decisions, and the inability to gain access to MDU inside wiring.[474] Two examples given of anticompetitive tactics are cable incumbents seeking sensitive information from RCN under the OVS rules and denial of vital local programming, especially sports programming delivered terrestrially.[475] RCN indicates that an inability to carry local sports programming will, in some markets, lower potential penetration rates to the point at which it will be unprofitable to enter.[476] Delays in gaining access to local rights-of-way typically are due to prolonged negotiations with local franchising authorities, particularly involving financial and service obligations.[477]

131. RCN urges the Commission to extend the program access exclusivity rules beyond their scheduled sunset in 2002.[478] RCN further requests that the process employed in the relevant proceeding involve a more dynamic, "face-to-face" process than the traditional "notice-and-comment rulemaking" procedure.[479] Finally, RCN emphasizes the importance of access to sports programming to the survival of entrants into the MVPD market.[480]

I. Electric and Gas Utilities

132. Since the *1999 Report*, several electric and gas utilities have announced, commenced, or moved forward with ventures involving multichannel video programming distribution. Utilities are not yet major competitors in the telecommunications or cable markets. However, as previously reported, they generally possess characteristics, such as ownership of fiber optic networks and access to public rights-of-way, that potentially could make them competitively significant.[481] Moreover, deregulation of utilities, accompanied by the advent of competition, is prompting more utilities to diversify and find new revenue streams.[482]

133. Starpower, a joint venture between RCN and Potomac Electric and Power Company ("PEPCO") in the Washington, D.C., area continues to expand the area in which it offers service.[483] We previously reported on the activities of Seren, a wholly owned subsidiary of Minneapolis-based Northern States Power.[484] Both Seren and RCN offer voice, video, and high-speed Internet access services over integrated networks. In addition to the communities Seren was serving, or had applied for franchises to serve last year, comments indicate that Seren has begun offering cable and high-speed Internet access

[474] RCN Comments at 11-12. *See also* BellSouth Comments at 3-7 (discussing the difficulty encountered by entrants obtaining programming, difficulty that is increasing with increasing concentration in the cable industry). *See* ¶ 90 *supra* for a more complete discussion of BellSouth's comments in this area.

[475] RCN Comments at 12-24; American Broadband Comments at 9-10.

[476] RCN Comments at 23.

[477] *Id.* at 24-26.

[478] *Id.* at 30-31. *See also* BellSouth Comments at 7-9; American Broadband Comments at 7-8.

[479] *Id.* at 31-32.

[480] *Id.* at 32-33.

[481] *See e.g., 1999 Report*, 15 FCC Rcd at 1042 ¶ 136.

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

[483] *See* ¶¶ 126-128 *supra*.

[484] *1999 Report*, 15 FCC Rcd at 1042 ¶ 137.

service as a cable overbuilder in Sartell and Sauk Rapids, Minnesota.[485] Seren is also offering service in the San Francisco Bay area, and has a franchise in Walnut Creek, California.[486] Finally, reports indicate that Seren has expressed interest in offering service in Charlotte, North Carolina.[487]

134. Siegecom, funded by Blackstone Capital and a joint venture of Southern Indiana Gas and Electric and Utilicom, is offering service in Evansville and Newburg, Indiana. Siegecom currently has 14,000 subscribers and targets a total of 120,000.[488] Siegecom offers a bundle of voice, video, and data access services, and has approached 22 other Indiana cities about obtaining franchises.[489] Digital Union, a subsidiary of the local utility in Austin, Texas, plans to overbuild the incumbent cable operator.[490] Finally, Braintree, Massachusetts, granted a franchise to the municipal electric utility, Braintree Electric Light Department, which is expected to begin offering cable service in December 2000.[491]

III. MARKET STRUCTURE AND CONDITIONS AFFECTING COMPETITION

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

135. The video programming market is comprised of 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.[492] In the distribution market, the buyers are individual households as well as families living in multiple dwelling units ("MDUs"), and the sellers are MVPDs, including cable operators and other video service providers such as DBS providers. In the market for the purchase of video programming, the buyers are MVPDs, and the sellers are programming networks, studios and programming packagers.[493]

136. In this section, 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 1999 and June 2000. In our discussion of competition in the distribution 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 programming by MVPDs, and examine the effects that changes in concentration among MVPDs at the regional and national levels have had on this market in the last year.

[485] NCTA Comments at 23. NCTA also reports that, in July, Seren applied for franchises in 13 additional suburban St. Cloud communities.

[486] *Id*. As reported last year, Seren holds a franchise in Concord, California, and has applied for franchises in Danville, Pleasant Hill, Clayton, and unincorporated areas of Contra Costa County, California.

[487] NCTA Comments at 23.

[488] *Id.* at 22-23.

[489] *Id.*

[490] *Id.* at 23.

[491] Comm. Daily, *Mass Media*, Oct. 5, 2000, at 11.

[492] *1996 Report*, 12 FCC Rcd at 4419 ¶ 118; *1997 Report*, 13 FCC Rcd at 1121 ¶ 156.

[493] *Id*.

1. Competitive Issues in the Market for the Distribution of Video Programming

137. The market for the delivery of video programming to households continues to be highly concentrated and characterized by substantial barriers to entry which serve to increase the cost of potential entry into a rival's market.[494] These barriers may include: (a) strategic behavior by an incumbent designed to raise its rival's costs, e.g., limiting the availability of certain popular programming from rivals; (b) local and state level regulations, e.g., causing rivals to incur a delay in gaining access to local public rights-of-way facilities; and (c) technological limitations, e.g., DBS and MMDS line-of-sight problems.[495]

138. While competitive alternatives to the incumbent "wireline" MVPDs are developing and attracting an increasing proportion of MVPD subscribers, most consumers have limited choices among video distributors. A relatively small percentage of consumers have a second wireline alternative, such as an OVS or overbuild cable system, in addition to the traditional incumbent cable operator. While several "wireless" technologies are used to provide video programming service, DBS is the one wireless technology available to the majority of subscribers nationwide. Thus, homes are generally passed by only one wireline and one or more wireless MVPDs. Of the 33,000 cable community units nationwide, 330, or 1 percent have been certified by the Commission as having effective competition as a result of consumers having a choice of more than one MVPD.[496] In the Competitive Responses section of this Report, we describe the competitive response of both the incumbent and the new entrant in several of these communities. Incumbent operators are most likely to respond to competition by reducing their monthly charge for cable programming services and equipment, by offering additional channels, or by offering Internet and other telecommunications services.[497]

139. As of March 2000, Ameritech was the largest wireline overbuilder, offering video service to approximately 300,000 subscribers. However, Ameritech's continued commitment to this market has become uncertain following its acquisition by SBC. SBC suspended completion and operation of any new cable franchises previously awarded to Ameritech that were not yet operational.[498] RCN, another prominent overbuilder, on the other hand, is increasing its presence in major metropolitan areas. As of March 2000, RCN had approximately 300,000 video subscribers.[499]

140. Several wireless MVPD technologies, including MMDS, SMATV, and DBS, deliver programming to individual households and MDUs and provide consumers an alternative to incumbent cable systems. While providing an alternative for some consumers, SMATV systems do not provide service throughout a local cable franchise area, and MMDS, which often serves larger areas than SMATV

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[494] *Id*.

[495] *1994 Report,* 9 FCC Rcd at ¶¶ 228-245. RCN Comments at 11-33.

[496] The number of communities in which a cable operator faces competition is determined by the number of communities that have been certified by the Commission as having effective competition on the basis of the head-to-head or LEC competition tests. If a cable operator facing competition from another provider chooses not to file a petition for a determination of effective competition, the community served by the cable operator is not included in the count. In addition, if a petition has been filed and is pending, that community also is not included in the count.

[497] *See* ¶¶ 235-238 *infra*.

[498] *See* ¶ 122 *supra*. Similarly GTE and SNET are also considering whether to sell their overbuild cable systems. *See* ¶ 124 *supra*. S*ee also* American Broadband Comments at 3.

[499] RCN Reply Comments at Appendix A.

service, offers fewer channels than cable systems. The two principal DBS services are presumed to be technically available nationwide, although they may not actually be available to subscribers in MDUs or in households that are not within the line-of-sight of a DBS signal. Changes in the law enacted last year now permit DBS operators to offer local broadcast network signals in their local television market. This coupled with changes in DBS operators' marketing strategies are likely to make DBS even more viable as a competitor to cable.[500] In November 1999, SHVIA eliminated the prohibition on DBS delivery of local network signals into their local television markets, and DBS operators have begun offering this service in a number of major television markets.[501] In addition, DBS operators have started to lease both the satellite dishes and set-top boxes, thus reducing the large upfront costs previously associated with subscription to this service.

141. ***Recent Developments in the MDU Market***. The MDU market is a significant segment of many local MVPD markets. MDUs comprise a wide variety of high-density residential complexes, including high and low-rise rental buildings, condominiums, and cooperatives.[502] According to one estimate, there are currently 21.4 million MDUs in the U.S. That number is expected to grow to 23.3 million by the year 2003.[503] Historically, cable and SMATV operators were the primary providers of MVPD services to MDU subscribers. More recently, however, DBS has begun to supply programming to operators that serve MDUs and to MDU residents directly.[504] SMATV operators, also known as private cable system operators, deliver an integrated package of services to MDUs using a variety of delivery technologies, including one or more microwave links.[505] Traditional cable operators as well as the DBS providers, DirecTV and EchoStar, serve this market.[506] Several private cable system operators have joined with DBS operators to provide video programming to MDUs.[507] According to one report, DBS is projected to gain five million net new DBS MDU subscribers by 2005 and a corresponding net revenue of $3.5 billion.[508] DBS operators also have formed marketing-distribution alliances with several LECs aimed at MDUs and the residential market.[509] Such alliances permit the LECs to offer "one-stop-shopping" for telecommunications services including voice, data, and video.[510] In May 2000, WSNet of Austin, Texas, announced the launch of a new satellite video service designed for private cable and small and rural cable

[500] NCTA Comments at 6-15.

[501] *See* ¶¶ 68-71 *supra*.

[502] Townhouses and mobile home communities, nursing homes, hospitals, and hotels may also represent consumer segments in some markets.

[503] Jason Marcheck, *MDUs: Broadband's Wealth of Opportunity*, Private & Wireless Broadband, December 2000, at 16.

[504] *Top 20 MDU Companies and the Services They Are Planning to Buy in 2000 and Beyond*, Private Cable & Wireless Cable, December 1999, at 12.

[505] *Id*.

[506] *10 Largest Private Cable Operators/Multiple System Operators*, Private Cable & Wireless Cable, December 1999, at 4. Although RCN, the largest OVS operator, has converted a number of its open video systems to traditional cable systems.

[507] Jimmy Schaeffler, *DBS Providers Zero in on the Multihousing Market*, Private Cable & Wireless Cable, August 1999, at 22.

[508] Jimmy Schaeffler, *Is DBS Creating a Second Class of Americans?* Private & Wireless Broadband, November 2000, at 30.

[509] *Id*.

[510] CableDay, July 20, 1999, at 1.

companies. Unlike DBS, WSNet provides over 190 digital channels only to SMATV and other small cable operators who in turn distribute these programming services to their subscribers.[511]

142. Recently, a number of large SMATV cable operators, including OpTel, SkyView, and Cable Plus, have declared bankruptcy.[512] In addition, SMATV operators, MidAtlantic Communications and OnePoint Communications, were acquired by cable MSO Comcast and by a regional Bell operating company ("RBOC") Verizon Communications, respectively. According to some analysts these developments have weakened SMATV's stature as a viable competitor to franchised cable operators in the MDU market.[513]

143. A number of SMATV operators are offering bundled video, voice, and data services in order to compete more effectively with the traditional cable operators in the MDU market. RCN is one such company which uses a variety of technologies to serve MDUs, including cable, OVS, and traditional SMATV systems. RCN is currently providing video programming services in the MDU market in Boston, New York, Philadelphia, Chicago, San Francisco, and Washington D.C. areas. In the near future, RCN plans to expand its services to New Jersey, Baltimore, Los Angeles, Portland, Seattle, south Florida, and Phoenix metropolitan areas.[514] In a majority of these areas, RCN offers a combination of video, high-speed Internet access, and local and long distance telephone services.[515]

144. ***Competitive Issues in the MDU Market.*** Commenters raise a number of issues that they contend adversely affect their ability to serve the MDU market. These include their inability to gain access to MDU inside wiring due to owners' objections for aesthetic, safety, or practical reasons, exclusive and/or perpetual contracts between incumbents and MDU owners, and the failure of the Commission's over-the-air-reception devices ("OTARD") rules which do not cover renters and owners who do not have exclusive use of areas suitable for antenna installation.[516]

145. Commenters suggest that exclusive or perpetual contracts between incumbent MVPDs and MDU owners represent a barrier to entry into the MDU market.[517] According to commenters, exclusive contracts often were entered into before the arrival of alternative MVPDs in the MDU market, and the continued existence of these contracts prevents the MDU owners and/or their tenants from having an opportunity to select among competing providers. According to the Independent Cable Telecommunications Association ("ICTA"), a significant portion of the MDUs in the U.S. are currently covered by perpetual contracts with incumbent franchised cable operators.[518]

146. DirecTV argues that MDU residents have limited choices among MVPD providers because exclusive contracts or exclusive "rights of entry" between incumbents and property owners either

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[511] Joel Schofield, *WSNet Launches Nation's Third Digital Satellite Video Service,* Private & Wireless Broadband, May 2000, at 12.

[512] Larry Kessler, *Winning the Battle and the War: What Does It Take?* Private & Wireless Broadband, July 2000, at 10.

[513] *Id.*

[514] RCN also serves single family residences.

[515] *Id*.

[516] DirecTV Comments at 18-19; RCN Comments at 29; 1999 RCN Comments at 15-17.

[517] *Id*.

[518] Facsimile from ICTA, October 13, 1999, at 2.

discourage new entrants or make it impossible for them to enter the market.[519] ICTA, on the other hand, contends that exclusive contracts give MDU residents bargaining power to collectively negotiate with several competing MVPDs for a favorable deal in pricing and services. A single resident or household, however, may not be able to demand very much in terms of services and pricing discount from MVPD providers.[520]

147. RCN contends that a number of Commission decisions create barriers to entry to markets including the MDU market. It contends that delayed Commission decisions regarding access to existing inside cable wiring at a junction box when it is not practical to access the wiring at or near individual units have thwarted RCN's entry into this market.[521]

148. On October 9, 1997, the Commission adopted a *Report and Order and Second Further Notice of Proposed Rulemaking* that amended the cable inside wiring rules to enhance competition in the video distribution market.[522] The *Second Further Notice* sought comments on several issues including: (a) whether there are circumstances where the Commission should adopt restrictions on exclusive contracts in order to further promote competition in the MDU market; (b) whether the Commission should preempt state and local mandatory access laws in order to broaden the applicability of the Commission's inside wiring rules; (c) whether the Commission should exempt small MVPDs from signal leakage reporting requirements; (d) whether the Commission should extend its rules regarding customer access to cable inside wiring before termination of service to cover all MVPDs in the same manner that they apply to cable operators; and (e) whether to allow MDU owners to require that incumbent MVPDs share their wiring with competitive MVPDs. The Commission action in this proceeding is pending.

149. In a related action, on October 12, 2000, the Commission adopted measures to enhance the ability of competing telecommunications providers to provide services to customers in residential and commercial buildings or other multiple tenant environments ("MTEs").[523] The adopted measures included a determination that utilities, including LECs, must afford telecommunications carriers and cable service providers reasonable and nondiscriminatory access to conduits and rights-of-way located in customer buildings and campuses, to the extent such conduits and rights-of-way are owned or controlled by the utility. The Commission also sought additional comments on whether it should extend its cable inside

[519] DirecTV Comments at 19.

[520] ICTA, *ex parte* filing, *Telecommunications Services, Inside Wiring, Customer Premises Equipment,* CS 95-184 and *Implementation of the Cable Television Consumer Protection and Competition Act of 1992, Cable Home Wiring,* MM 92-260, June 6, 2000.

[521] RCN Comments at 30.

[522] *Telecommunications Services Inside Wiring, Customer Premises Equipment, Implementation of the Consumer Protection and Competition Act of 1992: Cable Home Wiring,* CS Docket 95-184 and MM Docket No. 92-260, Report and Order and Second Further Notice of Proposed Rulemaking ("*Inside Wiring Order"*), 13 FCC Rcd 3659 (1998).

[523] *Promotion of Competitive Networks in Local Telecommunications Markets, Wireless Communications Association International, Inc. Petition for Rulemaking to Amend Section 1.4000 of the Commission's Rules to Preempt Restrictions on Subscriber Premises Reception or Transmission Antennas Designed to Provide Fixed Wireless Service, Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Review of Sections 68.104 and 68.213 of the Commission's Rules Concerning Connection of Simple Inside Wiring to the Telephone Network,* WT Docket No. 99-217, CC Docket No. 96-98, CC Docket No. 88-57, First Report and Order and Further Notice of Proposed Rulemaking in WT Docket No. 99-217, Fifth Report and Order and Memorandum Opinion and Order in CC Docket No. 96-98, and Fourth Report and Order and Memorandum Opinion and Order in CC Docket No. 88-57. FCC 00-366 (rel. October 25, 2000).

wiring rules to facilitate the use of home run wiring by telecommunications service providers where an incumbent cable provider no longer has a legal right to maintain its home run wiring in the building.

150. DirecTV asserts that the Commission's OTARD rules should be expanded to cover common areas for MDU residents.[524] On November 20, 1998, the Commission extended the OTARD rules to allow renters to install antennas within their "exclusive use" areas, i.e., apartments, homes, gardens, patios, terraces, and balconies. The rules, however, do not extend to the installation of antennas on common property or on property to which a viewer does not have a right of access.[525] DirecTV states that while the Commission's OTARD rules have encouraged some MDU landlords and owners to use a single dish for reception to prevent "dish clutter," the rule should be extended to renters and owners who do not have exclusive use of areas suitable for satellite reception.[526]

2. Competitive Issues in the Market for the Purchase of Video Programming

151. As explained in the *1998 Report*, buyers in the market for the purchase of video programming are MVPDs, including cable operators and other video service providers, and the sellers are primarily non-broadcast programming networks.[527] This market tends to be regional or national since programmers seek to develop networks much broader than local cable franchise areas. For example, some programming services are intended for a nationwide audience (e.g., CNN, USA) while others seek a regional audience (e.g., New England Sports Channel).

a. The Regional Market

152. For the past several years, cable operators have engaged in a regional strategy called "clustering." Many of the largest MSOs have concentrated their operations by acquiring cable systems in regions where the MSO already has a significant presence, while giving up smaller holdings scattered across the country. This strategy is accomplished through purchases and sales of cable systems, or by system "swapping" among MSOs.

153. ***Competitive Issues Related to Clustering***. Commenters contend that clustering of cable systems can create greater economies of scale and scope. It enables cable operators to offer a wider variety of broadband services at lower prices to customers in geographic areas that are larger than single cable franchise areas. Clustering can thus make cable operators more effective competitors to LECs whose local service areas are usually much larger than a single cable franchise area.[528] The General Accounting Office, in its report on the changing status of competition to cable television, also found that ownership ties and clustering strategies may provide cost savings and possible competitive advantages.[529]

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[524] DirecTV Comments at 19.

[525] *Restrictions on Over-the-Air Reception 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); *see also Restrictions on Over-the-Air Reception Devices: Television Broadcast, Multichannel Multipoint Distribution and Direct Broadcast Satellite Services*, CS Docket No. 96-83, Order on Reconsideration, 14 FCC Rcd 19924 (1999).

[526] DirecTV Comments at 19.

[527] *1998 Report*, 13 FCC Rcd at 24362 ¶ 125.

[528] AT&T Comments at 6-10; Comcast Comments at 21-29.

[529] United States General Accounting Office Report to the Subcommittee on Antitrust, Business Rights, and Competition, Committee on the Judiciary, U.S. Senate; *Telecommunications: The Changing Status of Competition to Cable Television*; GAO/RCED-99-158, July 1999.

In addition, Commenters point out that clustering enables cable operators to: (a) defray costs over a number of systems and a larger subscriber base; (b) deliver a higher quality of signal to consumers; (c) offer more local and regional programming for consumers; (e) provide better customer service and fewer outages; (f) create more efficient interconnections which enhance educational and governmental uses; (g) develop more attractive joint consumer promotions and discounts with area retailers and others; and (i) increase advertising revenues which can, in turn, be used to offset a portion of programming and system upgrade expenses.[530]

154. In the *1999 Price Survey Report*, the Commission reported that cable operators that were part of a cluster had, on average, higher monthly rates than operators that were not part of a cluster (i.e., a positive relationship was found to exist between average monthly rates and clusters).[531] AT&T contends that the Commission's *1999 Price Survey Report* incorrectly characterized the effects of clustering on average monthly cable rates.[532] More specifically, AT&T argues that the Commission in its study failed to account for the number of subscribers by not weighting monthly prices paid for a package of service by the number of subscribers taking such a package. AT&T further contends that the Commission failed to include pertinent variables, such as the availability of Internet access and local telephony, in the regression equation estimating effects of clustering on monthly rates. AT&T reported finding an inverse relationship between average monthly rates and a clustering variable when it re-estimated the Commission's regression equation using 1999 Price Survey data but weighting average monthly rates by the number of subscribers.[533] AT&T also estimated a modified version of the Commission regression equation using 1999 Price Survey data which included four additional variables: (a) the availability of Internet; (b) availability of telephony services; (c) number of franchise subscribers; and (d) number of subscribers taking a particular package of services.[534]

155. In order to test the validity of AT&T's assertions, we modified the regression equation presented in the *1999 Price Survey Report* and added a subscriber variable (reciprocal of system subscribers) to the equation as AT&T suggested. This variable was similar to the subscriber variable used in earlier Commission analyses of the demand for cable services.[535] Using 1999 Price Survey data, we estimated the modified regression equation and the results again showed a positive relationship between

[530] AT&T Comments at 6-10; Comcast Comments at 21-29.

[531] *Id*. *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 (*"1999 Price Survey Report"*), 15 FCC Rcd 10927, 10943 ¶ 39 (2000).

[532] AT&T Comments at 13-16; AT&T Reply Comments at 2.

[533] AT&T Comments at Appendix B. More specifically, AT&T regressed weighted monthly rates on low penetration, LEC, municipal, overbuild, MSO, log of reciprocal of the average total channels, and cluster variables. All but the log of the reciprocal of average total channels variable were dummy variables. The estimated coefficient of the cluster variable in the AT&T regression equation was –0.035 with a standard error of .0006 indicating that, holding all other variables constant, clustering had a negative effect on average monthly rates.

[534] AT&T Comments at Appendix D. The estimated coefficient for the cluster variable had a negative sign but was not statistically significantly different from zero.

[535] S*ee Implementation of Sections of the Cable Television Consumer Protection and Competition Act of 1992: Rate Regulation,* MM Docket No. 92-266, Second Order on Reconsideration, Fourth Report and Order, and Fifth Notice of Proposed Rulemaking, 9 FCC Rcd 4119, 4278 Appendix C (1994). *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, 14 FCC Rcd 8331 (1999).

clustering and average monthly rates. More specifically, the sign, magnitude, and statistical significance of the coefficient for the cluster variable was similar to the coefficient reported in the *1999 Price Survey Report*.[536] While clustering may help reduce programming and other costs as claimed by commenters, our findings show that these lower costs are not being passed along to subscribers in the form of lower monthly rates.[537]

156. Several commenters assert harmful effects of clustering and regional concentration on program distribution.[538] BellSouth argues that since a programming service cannot be successful without access to a critical mass of subscribers, programmers are becoming more reliant on large, well-clustered MSOs that effectively control distribution on a national or regional scale.[539] Commenters also argue that clustering can facilitate evasion of the Commission's program access rules. Specifically, it is likely that cable systems in a large cluster will be linked through a fiber optic network enabling operators to offer telecommunications services as well as a cost-efficient means of delivering programming to its systems. However, if MSOs have an ownership interest in programming, fiber optic networks may give them an added incentive to "migrate" programming from satellite delivery to terrestrial (fiber optic) delivery because only satellite delivered programming is subject to the program access rules. Therefore, a vertically integrated incumbent may be able to prevent competitors from gaining access to terrestrially delivered programming.[540]

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[536] S*ee 1999 Price Survey Report*, 15 FCC Rcd at 10959, Attachment D-1, for regression results showing the effects on average monthly rates of clustering, competitive status, median household income, and number of channels. Estimated regression coefficients for the clustering variable from both the Price Survey and the estimated modified regression equation were .026. More specifically, the modified regression equation had the following coefficients: Log of Average Monthly Rate = 3.516 + .034 low penetration - .025 overbuild - .339 municipal - .170 LEC + .020 MSO - 13.4 reciprocal of average total channels - .455 reciprocal of system subscribers + .017 log of median household income + .026 cluster. Since our modified regression equation included subscribers as an independent variable, it may have introduced a simultaneous relationship between average monthly rate and number of subscribers. For example, the number of subscribers in a system is affected by the average monthly rate charged which in turn is affected by the number of subscribers in the system. To handle this simultaneity problem, we replaced household subscribers (quantity demanded) in the modified equation with number of households passed (quantity supplied) which generally is not directly affected by average monthly rates. The estimates that resulted from this approach were similar to the coefficients found in the modified equation presented above. More specifically, the regression equation using a households passed variable yielded the following relationship: log of average monthly rate = 3.527 + .032 low penetration - .023 overbuild - .283 municipal - .174 LEC + .016 MSO - 13.1 reciprocal of average total channels + .016 log of median household income - 2.939 reciprocal of system household passed + .027 cluster. The fact that the coefficients from both regression equations are similar indicates that no significant simultaneity exists in our re-estimated regression equation. If a simultaneity were found, it would also be possible to solve this problem by using a simultaneous equation estimation technique. It should be noted, however, that AT&T's modified regression equation used the number of subscribers as an independent variable and, as a result, the regression coefficients from that equation may be subject to a simultaneous equation bias.

[537] For other studies with similar findings, s*ee*, George Ford and John Jackson, *Horizontal Concentration and Vertical Integration in the Cable Television Industry*, Review of Industrial Organization, 12: 501-518, 1997; Tasneem Chipty, *Horizontal Integration for Bargaining Power: Evidence from the Cable Television Industry*, Journal of Economics & Management Strategy, Volume 4, Number 2, 375-397, Summer 1995.

[538] BellSouth Comments at 4-5; EchoStar Comments at 7-8; RCN Comments at 22-23; RCN Reply Comments at 3; WCA Comments at 6-7; DirecTV Comments at 9.

[539] BellSouth Comments at 5.

[540] *Id*. at 15-16; EchoStar Comments at 8; RCN Comments at 17.

157. ***Recent Developments in Clustering***. Since the previous report, cable MSOs have continued to undertake or announce system mergers, acquisitions, divestitures, swaps, and joint ventures in order to create regional clusters of contiguous cable systems.[541] Most of these transactions resulted in the expansion of existing regional clusters of cable systems. AT&T, for example, has major clusters in Chicago, San Francisco/Oakland/San Jose, and Dallas, serving nearly 80 percent of the cable subscribers in those areas.[542] Similarly, Comcast's major clusters are in the Washington/Baltimore, Philadelphia, and Detroit areas. Charter is building major clusters in the Los Angeles area and in the Pacific Northwest.[543] Cablevision has a very large cluster in the New York area. Clustering is not limited to incumbent cable MSOs. For example, RCN, an overbuilder, generally builds its systems in clusters around major cities. In December 1999, RCN announced acquisition of Chicago-based 21st Century Telecom Corporation creating a cluster in the Chicago area.[544]

158. Between July 1999 and June 2000, there were a total of 52 transactions having an aggregate value of approximately $71 billion and involving 12.7 million subscribers, all intended to increase the size of existing cable clusters.[545] At the end of 1999, there were 114 clusters with approximately 44 million subscribers compared to 106 clusters and approximately 40 million subscribers at the end of 1998.[546] In the largest cluster size category (over 500,000 subscribers), the number of clusters increased by 33.3 percent between 1998 and 1999, and the number of subscribers in these clusters increased by 21.4 percent.

159. ***System Mergers and Acquisitions***. Several notable mergers and acquisitions occurred during period from June 1999 to June 2000. On June 5, 2000, the Commission gave a conditioned approval to the transfer of control of licenses and authorizations from MediaOne Group, Inc. ("MediaOne") to AT&T Corporation ("AT&T").[547] In a *Memorandum Opinion and Order*, the Commission ordered AT&T, within six months of completion of the merger, to inform the Commission what interests it will divest in order to come into compliance with the Commission's horizontal ownership and attribution rules. The Commission concluded that the merged firm without divestitures would serve 41.8 percent of the nation's MVPD subscribers. At about the same time the Commission approved the AT&T acquisition of MediaOne, GS Communications announced its intention to sell all its assets to Adelphia Communications. Following this acquisition, Adelphia will have 700,000 subscribers in its Virginia cluster.[548]

160. In January 2000, America Online, Inc ("AOL"), a leading Internet service provider, announced its intention to acquire Time Warner for approximately $51 billion. On February 11, 2000,

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[541] Appendix C, Table C-5.

[542] Comm. Daily, *Mass Media*, April 4, 1999, at 8.

[543] David Liberman, *Cable Deals Follow Trend Towards Regionalization*, USA Today, May 27, 1999, at B1.

[544] Paul Kagan Assocs., Inc., *Overbuilders Follow Consolidation Trend*, Cable TV Investor, December 23, 1998, at 8.

[545] Paul Kagan Assocs., Inc., *Cable System Sales Summary*, Cable TV Investor, August 11, 2000, at 9; March 3, 1999, at 8; and September 10, 1999, at 12.

[546] *See* Appendix C, Table. C-2.

[547] *Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations from MediaOne Group, Inc., Transferor, to AT&T Corp., Transferee*, CS Docket No. 99-251, Memorandum Opinion and Order, 15 FCC Rcd at 9816 (2000).

[548] Paul Kagan Assocs., Inc., *Another Original Leaves Cable*, Cable TV Investor, June 19, 2000, at 8.

AOL and Time Warner Inc. ("Time Warner") filed joint applications under sections 214 and 310(d) of the Communications Act[549] requesting Commission approval of the transfer of control to AOL Time Warner of licenses and authorizations controlled by AOL and by Time Warner or its affiliates or subsidiaries. The Federal Trade Commission approved the merger on December 14, 2000, and the Commission is currently reviewing AOL and Time Warner's petition for merger.

161. ***System Trades***. System-for-system "swaps" or trades enable MSOs to increase their regional clusters while minimizing financial outlays and avoiding capital gains taxes.[550] Since our last report, many of the largest proposed swaps, as measured by number of subscribers, involved AT&T and Comcast in which AT&T agreed to sell 1.25 million of its Lenfest subscribers to Comcast for $5.7 billion in for a stock-and-debt transaction. This transaction was part of a deal between Comcast and AT&T when the former agreed to withdraw its bid to acquire MediaOne. In December 1999, Charter and AT&T announced a deal to swap subscribers in Missouri, Illinois, Alabama, Georgia, and Texas in order to create regional clusters for both companies. In April 2000, Cablevision swapped approximately 357,000 of its subscribers in Boston for AT&T's approximately 125,000 subscribers in New York, $878 million in stock, and $284 million in cash.[551]

b. The National Market

162. Cable operators may have incentives to coordinate their decisions in the market for the purchase of programming on a national level. Concentration of ownership among buyers in this market is one indicator that coordinated behavior among buyers will be successful. Economic theory suggests that the level of competition is positively correlated to the number of firms in the relevant market, provided that there are no barriers to entry in the market. Concentration alone is not sufficient to determine whether a market is noncompetitive. If it is easy for new participants to enter the market, for example, highly concentrated markets may behave competitively. [552]

163. ***Competitive Issues***. Several commenters raise concerns about the anticompetitive effects of horizontal concentration of ownership on the purchase of programming.[553] BellSouth, for example, contends that programmers offer steep volume discounts exclusively to large MSOs that do not compete with each other.[554] EchoStar argues that the significant bargaining power of large MSOs in obtaining programming presents a barrier to entry.[555]

164. Another concern is that the excessive concentration of ownership may create "media gatekeepers" that could potentially bar entry of new programmers and reduce the number of media voices available to consumers.[556] In the 1992 Cable Act, Congress recognized the potential harm of excessive

[549] 47 U.S.C. §§ 214, 310(d).

[550] *1997 Report*, 13 FCC Rcd at 1118-19 ¶ 147.

[551] Paul Kagan Assocs., Inc., *Cablevision Completes Last Sale*, Cable TV Investor, April 2000, at 7.

[552] *See* F.M. Scherer, *Industrial Market Structure and Economic Performance*, Rand McNally College Publishing Company, 1980, at 56.

[553] BellSouth Comment at 6; EchoStar Comments at 7; American Broadband Comments at 10.

[554] BellSouth Comments at 6.

[555] EchoStar Comments at 7.

[556] *Implementation of Section 11(c) of the Cable Television Consumer Protection and Competition Act of 1992: Horizontal Ownership Limits*, MM Docket No 92-264, Third Report and Order ("*Horizontal Ownership Limits Order"*), 14 FCC Rcd at 19098, 19102 ¶ 9 (1999).

concentration of ownership on new programming, and directed the Commission to place limits on the concentration of ownership of cable systems at the national level.[557] At the same time, Congress also recognized the potential benefits to subscribers resulting from the size and scale of MSOs. In 1993, the Commission adopted a horizontal ownership limit prohibiting any person from having an attributable interest in cable systems that in the aggregate reach more than 30 percent of cable homes passed nationwide.[558] The 30 percent rule was intended to strike a balance between: (a) limiting the possibility that large cable MSOs might exercise excessive market power in the purchase of video programming; and (b) ensuring that cable operators could continue to benefit from economies of size in order to encourage investment in new video programming delivery technology and the deployment of other advanced technologies and services.[559]

165. Recognizing changes in the MVPD market, the Commission amended its horizontal ownership and related attribution rules in October 1999.[560] The revised cable horizontal ownership rules went into effect on May 19, 2000, the date that the United States Court of Appeals for the District of Columbia Circuit upheld the constitutionality of section 613(f)(1)(A) of the Communications Act.[561] Under these rules, calculation of the horizontal limit is based on MVPD subscribers served rather than cable homes passed. In addition, the calculation of ownership limits in the new rules is based on all MVPD subscribers and not solely on the number of cable subscribers. For example, although DBS providers pass almost every home in the country, DBS provides service to approximately 15 percent of all MVPD subscribers.[562] This change reflects the changing nature of the national market for the purchase of video programming and, specifically, the growing importance of DBS in that market.

166. The Commission's new horizontal ownership rules prohibit any person from having an attributable interest in cable systems that in the aggregate reach more than 30 percent of MVPD subscribers (as opposed to cable homes passed) in the U.S.[563] The 30 percent limit on ownership balances the interests of new cable programming networks and cable operators. Although a lower ownership limit would likely reduce the chances of collusion among cable operators and thereby increase a new cable network's chances of carriage, an ownership limit of 30 percent permits cable operators to acquire and cluster systems in order to gain efficiencies related to economies of scale and scope resulting in lower administrative costs, enhanced deployment of new technologies and services, and encouraging the extension into previously unserved areas.[564]

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[557] 47 U.S.C. § 533(f)(l)(A).

[558] The Commission's horizontal ownership rules and the statutes were challenged in two different forums. In *Daniels Cablevision, Inc. v. United States*, the U.S. District Court for the District of Columbia held that Section 613(f)(1)(a) violates the First Amendment. Time Warner challenged the horizontal ownership rules in the District Court of Columbia. In August 1996, the District of Columbia Circuit consolidated the appeals of Daniels with Time Warner. *See Daniels Cablevision, Inc. v. United States*, 835 F.Supp. 1, 10 (D.D.C. 1993), *aff'd in part; Time Warner Entertainment Co. L.P. v. FCC*, 93 F.3d 957 (D.C. Cir. 1996).

[559] *Horizontal Ownership Limits Order*, 14 FCC Rcd at 19103 ¶ 11.

[560] *Horizontal Ownership Limits Order*, 14 FCC Rcd at 19101 ¶ 5.

[561] 211 F.3d 1313 (D.C. Cir. 2000).

[562] *Horizontal Ownership Limits Order*, 14 FCC Rcd at 19111 ¶ 29.

[563] *Id*. at 19119 ¶ 53.

[564] *Id*.

167. In the *Horizontal Ownership Limits Order* Third Report and Order, the Commission held that all parties in violation of the rules on May 19, 2000, must come into compliance with the rules within 180 days of that date. The Consumer Federation of America filed a petition for reconsideration of the *Horizontal Ownership Limits Order* on January 3, 2000. The comment period on the petition is now closed, and a decision is pending. The D.C. Circuit heard oral argument on petitions for review of the *Horizontal Ownership Limits Order* on October 17, 2000.

168. ***Concentration in the National Market for the Purchase of Video Programming***. Over the past year, cable operators continue to be the primary purchasers in the national market for the purchase of multichannel video programming. Since MVPDs pay for the programming they purchase on a "per-subscriber" basis, we used publicly available MVPD subscriber data to determine level of concentration in this market. We found that cable operators controlled 80.19 percent of the total MVPD subscribers.[565] At the same time, non-cable MVPDs continued to increase their share of the MVPD market which translates into increased program purchasing in that market. For example, DirecTV's share of the MVPD market increased from 9.23 percent in 1999 to 10.28 percent in 2000. Similarly, the share of EchoStar, another non-cable MVPD, increased from 3.23 percent in 1999 to 5.11 percent in 2000.[566]

169. The top four purchasers of video programming for distribution to the household or MDU market are AT&T (with a share of 19.07 percent of all MVPD subscribers), Time Warner (with a share of 14.92 percent), DirecTV (with a share of 10.28 percent), and Comcast (with a share of 8.43 percent).[567] The share of subscribers of these top four MVPDs has declined slightly over the past year. In 1999, the four MVPDs with the largest subscribership served 53.94 percent of all MVPD subscribers.[568] In 2000, the top four MVPDs served 52.70 percent of all MVPD subscribers nationwide.[569] However, the share of subscribers served by the top ten MVPDs increased by more than eight percentage points between 1999 and 2000 from 74.95 percent in 1999 to 83.90 percent in 2000.

170. To assess the potential for market power resulting from concentration in the market for the purchase of programming, we employ the Herfindahl-Hirschman Index ("HHI").[570] We used the

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[565] *See* App. C, Table C-1.

[566] DirecTV is the third largest MVPD with 8.7 million subscribers; EchoStar is the eighth largest MVPD with 4.3 million subscribers. *See* App. C, Table C-3.

[567] It should be noted that these percentages are derived from publicly available data and are not the result of application of the Commission's attribution rules. For Commission's attribution rules, s*ee Implementation of the Cable Television Consumer Protection and Competition Act of 1992, Implementation of Cable Act Reform Provisions of the Telecommunications Act of 1996: Review of the Commission's Attribution Rules*, Report and Order, CS Docket Nos. 98-82, 96-85 (*"Attribution Order"*), 14 FCC Rcd 19014 (1999).

[568] *1998 Report*, 13 FCC Rcd at 24422 Appendix C, Table C-3.

[569] *See* App. C, Tables C-3 and C-4.

[570] *1998 Report*, 13 FCC Rcd at 24363 n. 562. The HHI is a measure of concentration that is calculated by summing the squared market shares of the sellers in the market. It is a measure of concentration that takes account of the entire firm size distribution. The HHI varies with the number of firms in the market and degree of inequality among firm size. Generally, the HHI increases when there are fewer and unequal sized firms in the market. If the firms in the market are similar in size or if there is only one firm, the HHI has no advantage over other measures of concentration such as four-firm or eight-firm concentration ratio. Thus, in local video distribution markets where the incumbent cable operator is the only MVPD, the HHI is of limited use. However, in the market for the purchase of video programming, where both cable and non-cable MVPDs compete, the HHI is sensitive to differences in firm size.

reported MVPD shares to calculate HHI figures.[571] The nationwide purchaser MVPD HHI is 954 – considered "unconcentrated" under the Merger Guidelines.[572] The HHI for 2000 is 31 points higher than the HHI of 923 reported last year.[573]

171. To summarize, our examination of national MVPD concentration currently reveals that the market for the purchase of video programming by MSOs is less concentrated than the market for the distribution of video programming to consumers which remains highly concentrated. In the regional and national markets for the purchase of video programming, a number of large MSOs are consolidating their subscriber base, although the share of the two largest MSOs (AT&T and Time Warner) has declined during the past year.[574] For example, AT&T's share of MVPD subscribers fell from 20.50 percent in 1999 to 19.07 percent in 2000. Time Warner's share changed slightly from 15.95 percent in 1999 to 14.92 percent in 2000. Although, shares of the top four largest MSOs have declined slightly since last year, shares of MSOs ranked 5th to 10th increased relatively sharply between 1999 and 2000. Overall share of the top 10 largest MSOs increased from 74.95 percent in 1999 to 83.90 percent in 2000. This explains a slight increase in HHI between 1999 and 2000.[575]

B. Vertical Integration and Other Programming Issues

1. Status of Vertical Integration

172. This section updates the status of vertically integrated video programming networks in the MVPD market. Vertical integration occurs where a video programming distributor has an ownership interest in a video programming supplier or vice versa.[576] These vertical relationships may have beneficial

[571] Since MVPDs purchase programming on a "per subscriber" basis, the total license fee paid for a program is based, in part, on the total number of subscribers served by the MVPD. As the subscribership increases, so does the total license fee paid by the MVPD.

[572] The United States Department of Justice and Federal Trade Commission consider markets with HHI below 1000 as "unconcentrated;" markets with an HHI between 1000 and 1800 as "moderately concentrated;" and markets with HHI above 1800 as "highly concentrated." *See 1998 Report*, 13 FCC Rcd at 24363 n. 562.

[573] *1998 Report*, 13 FCC Rcd at 24422, App. C, Table C-3.

[574] *See* App. C, Table C-3.

[575] By squaring market shares, the HHI weighs the values for large companies more heavily than small companies. Also, the HHI increases with increasing inequality among any given number of companies. *See* F.M. Scherer, *Industrial Market Structure and Economic Performance*, Rand McNally College Publishing Company, 1980, at 58.

[576] The data set forth in this section generally identify vertical ownership relationships by reference to the ownership attribution standards associated with the Commission's horizontal and vertical (channel occupancy) rules in effect when the *1999 Notice of Inquiry* was released. *See Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, CS Docket No. 99-230, Notice of Inquiry, 14 FCC Rcd 9617 (1999). On October 8, 1999, the Commission revised its horizontal ownership rules in two separate Report and Orders. *See Horizontal Ownership Limits Order* and *Attribution Order*. *See also Implementation of Section 11(c) of the Cable Television Consumer Protection and Competition Act of 1992: Horizontal Ownership Limits*, MM Docket No. l 92-264, Order on Reconsideration, 15 FCC Rcd at 1167, 1169 ¶ 8. *See also 1999 Report*, 15 FCC Rcd at 1056 ¶ 176.

effects,[577] or they may deter competitive entry in the video marketplace and/or limit the diversity of programming.[578]

173. The total number of programming networks has grown and cable operators continue to consolidate and develop new ownership interests. The proportion of vertically integrated channels however, continues to decline. In 2000, there were 281 satellite delivered national programming networks, a decrease of two channels since 1999. Of the 281 networks, 99 networks, representing 35 percent, were vertically integrated with at least one cable MSO.[579] This is a decrease of two percent from 1999 when 104 of 283, or 37 percent, of national programming networks were vertically integrated.

174. One or more of the top five cable MSOs holds ownership interests in each of the 99 vertically integrated services.[580] AT&T, the nation's largest MSO, has interests in 64 national programming networks through its subsidiaries AT&T Broadband and Liberty Media, or 23 percent of all programming networks.[581] In 1999, MediaOne held ownership interests in 12 national programming networks, representing four percent of programming networks. In June 2000, AT&T and MediaOne merged and MediaOne became integrated with AT&T Broadband. Cox Communications has interests in 28, or ten percent of all programming networks. Time Warner has an ownership interest in 34, or 12 percent of all programming networks. Comcast has ownership interests in 19 networks, which account for seven percent of all programming networks. Cablevision, through its programming subsidiary, Rainbow Media, owns 10 national programming networks, approximately four percent of all programming networks.

175. Vertical integration is not only associated with the largest cable system operators, but also the programming networks with the largest number of subscribers. Currently, nine of the top 20 video programming networks ranked by subscribership are vertically integrated with a cable MSO.[582] In 1999, eight of the top 20 were vertically integrated. However, it appears that a significant amount of video programming is controlled by only 11 companies, including cable MSOs, broadcasters, and other media entities.[583] Of the top 20 programming networks in terms of subscribership, more than half (i.e.,

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[577] Beneficial effects can include efficiencies in the production, distribution, and marketing of video programming, and providing incentives to expand channel capacity and create new programming by lowering the risks associated with program production ventures. *See, e.g.*, H.R. Rep. No. 862, 102nd Cong., 2d Sess. 56 at 41-43 (1992).

[578] *See 1995 Report*, 11 FCC Rcd at 2135 ¶ 158; *Implementation of Section 11(c) of the Cable Television Consumer Protection and Competition Act of 1992 Vertical Ownership Limits*, MM Docket 92-264, Memorandum Opinion and Order on Reconsideration of the Second Report and Order (*"Vertical Ownership Limits"*), 10 FCC Rcd 7364, 7365 ¶ 4 (1995).

[579] We count each unique programming service of a multiplexed package separately. We do not, however, count services that are not unique, as in a multiplexed programming service that is merely time shifted. *See 1998 Report*, 13 FCC Rcd at 24376, n. 661. *See also 1999 Report*, 15 FCC Rcd at 1056 n. 631.

[580] The top five MSOs are Time Warner Cable, AT&T Broadband & Internet Services, Comcast Cable Communications, Cox Communications, and Cablevision Systems. *See* App. D, Tbl. D-5.

[581] AT&T announced that it plans to convert its Liberty shares into a new publicly traded stock in the spring of 2001. AT&T will have no stake in Liberty after the spin-off. *See*, Geraldine Fabrikant, *AT&T Plans Spinoff to Cut Cable Holdings*, New York Times, November 16, 2000, at C1.

[582] App. D, Table D-6.

[583] The 11 companies are: ABC/Disney, General Electric, News Corp, Time Warner, Viacom, Discovery, Rainbow Media, Liberty Media, USA Networks, E.W. Scripps, and Comcast. As of May 4, 2000, Viacom completed its merger with CBS Corporation**.** *See* Viacom *Integrates Paramount and CBS Television Station Groups, Reporting to CBS Television President and CEO Leslie Moonves* (press release), May 24, 2000**.**

12) are owned by one or more of these 11 companies, with nine of these networks vertically integrated with cable MSOs. [584] In addition, 11 out of the top 20 video programming networks ranked by prime time ratings are vertically integrated with cable MSOs.[585]

176. This year we found 66 programming services that have been planned but are not yet operational, an eight percent decrease from the *1999 Report*'s count of 72 planned services.[586] According to some sources, analog channel capacity is becoming scarce and may account for the slow down in the launching of new programming networks.[587] The planned services count includes some overlap from previous years because it can often take several years from the announcement of a new programming network to its launch and initiation of service. For example, several of the 72 planned services counted in previous *Reports* have been launched during the past year and are now operating, while others have been aborted for various reasons.[588]

2. Other Programming Issues

177. As in previous years, this year's *Notice* requested comment on a number of programming issues apart from vertical integration and the status of existing and planned programming services. The *Notice* sought comment on the effectiveness of our current program access rules and whether the current scope of the program access rules are appropriate. The Commission also requested comment on the requirement that the Commission begin a proceeding to review cable programming exclusivity and cable program access rules and determine whether to preserve these rules or allow them to sunset.[589] The *Notice* also asked if there are specific types of programming (e.g., movie, sports, or news channels) considered essential to the success of a programming distributor. Finally, the Commission sought new information about public educational and government ("PEG") access channels, a la carte offerings, and the effect of increased programming costs on rates charged to subscribers among other programming issues.

178. ***Program Access***. The Commission's rules on competitive access to cable programming prohibit unfair and discriminatory practices by vertically integrated cable operators.[590] The rules seek to promote competition and diversity in the multichannel video programming market by preventing vertically integrated programming suppliers from favoring affiliated video distributors over unaffiliated MVPDs in the sale of satellite-delivered programming.[591] The program access rules apply to cable

[584] C-SPAN, C-SPAN2, WGN, and The Weather Channel are the four unaffiliated programming networks among the top 50 programming networks. Cable affiliates provide 95 percent of the funding for, but have no ownership or program control interests in C-SPAN and C-SPAN2. DBS licensees provide the other 5 percent of funding, and also have no ownership or program control interests. None of the 11 companies listed in footnote 583 *supra* have any ownership interest in WGN or The Weather Channel. *See* Paul Kagan Assocs., *Network Census: September 30,* Cable Program Investor, Dec. 17, 1999, at 8.

[585] App. D, Table D-7.

[586] *See 1999 Report*, 15 FCC Rcd at 1112 App. D, Table D-4 . *Also see* App. D, Table D-4.

[587] *See*, Linda Moss, *With Shelf Space Tight, Nets Angle for Slots*, Multichannel News, November 15, 1999, at 3. *Also See*, Monica Hogan, *Emerging Networks Face Fight for Carriage*, Multichannel News, July 10, 2000, at 80.

[588] Compare Table D-4 *infra* with *1999 Report*, 15 FCC Rcd at 1112 Appendix D, Table D-4**,** *1998 Report*, 13 FCC Rcd at 24442, Appendix D, Table D-4, and *1997 Report*, 13 FCC Rcd at 1222-25 App. F, Tbls. F-3 and F-4.

[589] *See* section 628(c)(5) of the Communications Act, 47 U.S.C. §548(c)(5).

[590] 47 C.F.R. §§ 76.1000-76.1003. *See also* 47 U.S.C. § 536(a)(2); 47 U.S.C. § 548(a)(2).

[591] *See* section 19 of the 1992 Cable Act, Development of Competition and Diversity in Video Programming Distribution. *See also* 47 U.S.C. § 548.

operators and to programming vendors that are affiliated with cable operators and deliver video programming via satellite to an MVPD. The rules prohibit any cable operator that has an attributable interest in a satellite cable programming vendor from improperly influencing the decisions of the vendor with respect to the sale or delivery, including prices, terms, and conditions of sale or delivery, of satellite delivered programming to any unaffiliated MVPD. The rules also prohibit vertically integrated satellite programming distributors from discriminating in the prices or terms and conditions of sale of satellite-delivered programming to cable operators and other MVPDs. In addition, cable operators generally are prohibited from entering into exclusive distribution arrangements with affiliated programming vendors. DBS providers, however, are not subject to most of the program access rules and are allowed to enter into exclusive programming arrangements.[592]

179. The prohibition on cable exclusivity in the program access rules ceases to be effective on October 5, 2002, unless the Commission finds the prohibition continues to be necessary to preserve and protect competition and diversity in the distribution of video program.[593] The Commission is required to begin a proceeding to review these rules in 2001. In the *Notice*, the Commission sought comment on the required review of the rules' sunset.

180. DirecTV and others urge the Commission to carefully examine this law in the context of the sunset provision, particularly in light of technical advances that have diminished the costs of terrestrial delivery and clustering that facilitates terrestrial delivery that allows cable operators to insulate themselves from the program access requirements.[594] NCTA notes that the rules were intended to prevent incumbent cable operators from denying programming to new entrants and thereby ensure that consumers have a choice of providers.[595] NCTA asserts that the current MVPD landscape is competitive and surpasses anything that Congress or the Commission could have imagined in 1992. Therefore, they argue, sunset of the rules is justified.[596]

181. Several commenters maintain that, despite the presence of the program access rules, lack of access to programming, especially sports programming, remains a significant barrier to entry and an impediment to the successful development of a competitive MVPD business.[597] According to these commenters, vertically integrated cable operators maintain a high degree of market power that enables them to dominate the programming market.[598] NCTA disputes these assertions and points to the success and continued growth of DBS and other competitive MVPDs as evidence that the program access rules have served their purpose and should be allowed to sunset.[599]

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[592] While the program access rules do prohibit vertically integrated satellite programming distributors, including DBS, from discriminating in the prices or terms and conditions of sale of satellite-delivered programming to cable operators and other MVPDs, currently none of the DBS licensees are vertically integrated. *See* DirecTV Comments at 12.

[593] *See* section 628(c)(5) of the Communications Act, 47 U.S.C § 548 (c)(5).

[594] DirecTV Comments at 9; DirecTV Reply Comments at 1-3. *See also* American Broadband Comments at 9-10; BellSouth Comments at 7-8; RCN Comments at 30-32; and WCA Comments at 3-4.

[595] NCTA Comments at 29.

[596] *Id*. at 29-30.

[597] RCN Comments at 2, 11; DirecTV Comments at 15; WCA Comments at 5.

[598] *See* EchoStar Comments at 3; WCA Comments at 4-8; RCN Comments at 12.

[599] NCTA Comments at 29-32

182. NCTA opposes any change in the scope of the current rules and dismisses concerns related to the so-called "terrestrial migration" of channels from satellite delivery to terrestrial delivery.[600] The Commission has declined to apply the program access rules or equivalent restrictions to terrestrially delivered programming.[601] In the *Program Access Order*, the Commission maintained that there were "no indications at this time that terrestrial delivery of programming formerly delivered by satellite is a significant competitive problem."[602] The Commission indicated, however, that if a trend developed where vertically integrated programmers began to switch from satellite delivery to terrestrial delivery for the purpose of evading the Commission's rules, it would "consider an appropriate response to ensure continued access to programming."[603] Nevertheless, several commenters assert that terrestrial migration weakens the intent of program access rules and threatens the development of a competitive MVPD market.[604] In addition, EchoStar recommends that the Commission use a more general provision of the program access rules, the unfair practices provision, as an umbrella under which the actions and contracts of unaffiliated programmers or programming delivered terrestrially may be covered.[605]

183. ***Sports Programming***. Regional sports programming, continues to be an important segment of programming for video distributors. The comments of RCN, in particular, stress the importance of sports programming to video competitors. According to a survey commissioned by RCN, between 40 and 58 percent of cable subscribers would be less likely to subscribe to cable service if it lacked local sports.[606] Of the 75 regional cable channels counted in this year's report, 27, or 36 percent, are sports channels.[607]

184. The largest sports programming network, ESPN, owned by Disney, reaches 76 million television households. While ESPN dominates national sports programming, regional sports distribution is dominated by Fox Sports Net, which owns 67 percent (18 of 27) of the current regional sports networks. Fox Sports Net, jointly owned by News Corp and cable MSO Cablevision Systems, reaches 68 million television households. Both News Corp. and Disney also have interests in sports teams and sports venues making them vertically integrated at all levels of the sports industry.

185. Commenters assert that such vertical integration, especially with important sports programming, gives these programmers incentives to act as gatekeepers and engage in unfair strategies to control access to sports programming.[608] Commenters note that vertically integrated entities may have an incentive to shift regional sports networks from satellite to terrestrial distribution and thereby avoid program access requirements.[609] In addition, where a regional sports network is non-vertically integrated,

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[600] *Id*. at 29.

[601] *Implementation of the Cable Television Consumer Protection and Competition Act of 1992, Petition for Rulemaking of Ameritech New Media, Inc. Regarding Development of Competition and Diversity in Video Programming Distribution and Carriage*, CS Docket No. 97-248, RM No. 9097, Report and Order ("*Program Access Order*"), 13 FCC Rcd 15822, 15856-7 ¶¶ 70-71 (1998).

[602] *Program Access Order*, 13 FCC Rcd at 15856-7 ¶ 71.

[603] *Id*.

[604] RCN Comments at 16; DirecTV Comments at 15; WCN Comments at 8.

[605] EchoStar Comments at 7-8. *See* 47 U.S.C. § 548(b) and 47 C.F.R. §76.1001 (unfair practices generally).

[606] RCN Comments at 17.

[607] *See* App D, Table D-3.

[608] RCN Comments at 14-17.

[609] *See* ¶¶ 178-182 *supra* for a more detailed description of program access.

a video distributor may enter into an exclusive contract with the program provider and, thus, deprive rivals of the programming.

186. DirecTV, in its comments, listed 23 regional sports networks (including 16 Fox Sports Networks) that are carried on its system.[610] DirecTV carries regional sports networks in every regional sports market except Philadelphia were it was refused access to Comcast's SportsNet.[611] Comcast, in its annual reports, remarks that its regional sports channel, SportsNet, provides a significant marketing advantage against satellite and other competitors.[612]

187. EchoStar states that exclusivity deals between video programming distributors and sports leagues constitute a "significant impediment" to the promotion of stronger competition in the video distribution marketplace.[613] Where a regional sports channel is non-vertically integrated, a cable MSO may enter into an exclusive contract with the program provider.

188. Clustering is also said to have an impact on access to sports programming.[614] In the *1999 Report*, we noted that because most sports programming affiliate fees are based on subscriber volume, only well clustered, large MSOs can take full advantage of programming discounts.[615]

189. Finally, it appears that more and more sports programming is distributed via cable in lieu of other outlets. Broadcasting & Cable magazine, in its annual survey of sports programming, notes that an increasing number of baseball games are being shown on cable rather than on broadcast television.[616] The number of regular season baseball games on regional cable networks grew 5.5 percent over last year according to Broadcasting & Cable. The industry magazine estimates that cable will air 123 more baseball games in 2000 than it did in 1999 and that cable networks will carry 760 more baseball games (2,310 versus 1,550) than broadcast television will air.[617] This migration of games to cable is seen as an ongoing trend. Fox Sports Net, through an agreement with major league baseball, now has the cable rights to 27 of the 30 major league baseball teams.[618]

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[610] DirecTV Comments at 14

[611] *Id*. *See also Application for Review of Orders of the Cable Services Bureau Denying Program Access Complaints*, CSR 5122-P and CSR 5244-P, Memorandum Opinion and Order, FCC 00-404, (rel. November 20, 2000). This Order consolidates several proceedings involving Comcast, DirecTV, and EchoStar. In separate proceedings, DirecTV and EchoStar filed program access complaints alleging that Comcast violated sections 628(b) and (c) of the Communications Act and the Commission's regulations by engaging in discrimination and unfair practices and exercising undue influence over the distribution of satellite cable programming. The Cable Services Bureau denied the complaints. Subsequently, DirecTV and EchoStar each requested Commission review and reversal of the Cable Bureau's decision. The Commission consolidated the proceedings and denied the applications for review.

[612] *See* www.comcast.com/investor_relations/annual_reports99/. *See also* RCN Comments at 18-21.

[613] EchoStar Comments at 9.

[614] RCN Comments at 22-23.

[615] *1999 Report*, 15 FCC Rcd at 1060 ¶ 186**.** *See also* R. Thomas Umstead, *Consolidation Blues*, Cablevision, June 28, 1999, at 39.

[616] Kim McAvoy, *Batting Clean-Up*., Broadcasting & Cable, March 27, 2000, at 36.

[617] *Id*.

[618] *Id*. at 32.

190. ***News Programming***. Local news channels have been on cable since at least 1986, when Cablevision Systems launched News 12 Long Island. This year, of the 75 regional programming networks counted, 40 percent (30 networks) are regional news networks. Unlike sports programming, regional and local news networks have a more diverse ownership. A number of regional news networks are vertically integrated with cable MSOs but many are not.[619]

191. Most regional news networks cover a single city or other limited geographic market, or subsections of that market (the New York City metropolitan area alone has six news channels).[620] A handful of regional news networks, however, have elected to broaden their coverage. Statewide news channels are operating in Massachusetts, Texas, and Ohio. New England Cable News ("NECN"), is the oldest and most successful regional news network. NECN reaches almost 2.5 million households, approximately 64 percent of cable homes in the six-state region it serves. In the Boston market, the channel can be seen in 92 percent of cable homes.[621]

192. ***PEG Programming***. Public, educational, and government ("PEG") channel set-asides are often required on cable systems by local franchising authorities.[622] Approximately 15 percent of all cable systems carry PEG programming.[623] Cable operators do not have ownership interests in PEG access programming, although some franchise agreements require that they provide services, production facilities, and equipment for the production of local programming. PEG programming is not, therefore, considered vertically integrated.

193. ***70/70 Benchmark***. Section 612(g) of the Communications Act provides for the Commission to promulgate rules necessary to provide diversity of information sources when cable systems with 36 or more channels are available to, and subscribed to by, 70 percent of U.S. households. In the *Notice*, we asked whether the so-call "70/70" benchmark had been met and sought comment on how the Commission should implement this requirement. NCTA argues that the benchmark has not been met because, while cable systems with 36 or more channels are available to more than 70 percent of household in the US, only 65.5 percent of households subscribe to those systems.[624]

194. Citing the legislative history, NCTA further states that section 612(g) was intended solely to authorize the Commission to regulate the rates, terms, and conditions of leased access channels and not cable rules generally.[625] AT&T supports NCTA's conclusions with respect to the 70/70 benchmark

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[619] Cablevision Systems, the sixth largest MSO, owns news networks, including MSG Metro Traffic and Weather in New York and the News 12 group of regional news services in Connecticut, New Jersey, and Westchester County, New York. Time Warner, AT&T, and Adelphia, all among the top ten cable MSOs, each own or have ownership interests in regional or local news programming networks, often in partnership with newspaper or publishing companies.

[620] Deborah D. McAdams, *Cable News Nets Go Small*, Broadcasting & Cable, September 27, 1999, at 42.

[621] Steve Sullivan, *NECN Comes into Its Own*, Broadcasting & Cable, May 8, 2000, at 52.

[622] Communications Act, § 611, 47 U.S.C. § 531.

[623] Local franchise authorities are allowed to establish procedures under which the cable operator may utilize unused PEG channel capacity for other services. 47 U.S.C. § 531(d)(1). *See also* www.alliancecm.org/about/info.htm.

[624] NCTA Comments at 32. *See* 47 U.S.C.§532(c)(4).

[625] NCTA Comments at 33. *See also* Report of the Committee on Energy and Commerce, H.R. Rep. 98-934, 98th Cong., 2d Sess. 54 (1984).

asserting that the statute applies solely to modifications to the leased access requirements and cannot be the basis for promulgating rules unrelated to leased access.[626]

195. Paxson, however, disputes the arguments of NCTA and AT&T and urges the Commission to take advantage of the broad authority of the 70/70 benchmark to adopt rules to remove and/or limit access to adult programming on cable in order to promote diversified, family programming.[627]

196. ***A La Carte/Unbundling of Cable Programming Services Tiers***. In the *Notice*, we sought information on the extent to which MVPDs offer or plan to offer consumers programming choices on an "a la carte" or individual channel basis rather than in tiers of channels. Currently, the majority of programming networks are offered in tiers. Premium channels, such as HBO and Showtime, and some sporting events, such as boxing, are offered on an a la carte basis.[628]

197. Unbundling of programming tiers is sometimes thought to provide more subscriber choice and greater competition among program services.[629] However, operators maintain that tiering enables delivery of MVPD programming at the lowest per channel costs. In addition, if a cable subscriber does not have an addressable set-top box, a la carte delivery is not always technically feasible.[630] It is also thought that subscribers are more likely to view new programming channels that are bundled on a tier with established programming.

198. In the *1999 Report*, we reported that some parties thought that the sunset of cable rate regulation and the growth in digital channels would serve as an incentive for cable operators to be more flexible in their packaging of programming channels.[631] While this trend has not developed, the effect of digital upgrades, and the resulting ability to deliver more channels of programming, on how programming is packaged continues to be discussed. NBC President Bob Wright, for example, asserts that digital technology will allow programming distributors to package programs and even portions of programs, e.g. a music video, as data bundles that can be sold on a pay-per-view basis or as a la carte service.[632]

199. ***SAP Channel***. The second audio program ("SAP") channel allows a video distributor to transmit an additional soundtrack. When the SAP channel is being used, a viewer can choose between the primary soundtrack and the additional, or second, audio track transmitted with the program. The SAP channel is most frequently used for alternative languages and video description. Video description is the description of key visual elements in programming inserted into natural pauses in the audio of the programming. It is designed to make television programming more accessible to the many Americans who have visual disabilities. On July 21, 2000, the Commission adopted rules that provide for the use of the SAP channel by large broadcast and cable television networks to provide programming with video

[626] AT&T Reply Comments at 2.

[627] Paxson Comments at 23.

[628] For a discussion of tiering, generally, *see Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992: Buy through Prohibition*, MM Docket No. 92-262, Report and Order, 8 FCC Rcd 2274 (1993).

[629] *See* statement of Senator Inouye, S.Rep. No. 102, 102d Cong., 2d Sess. 77 (1992).

[630] Addressability is the ability of a cable operator to control electronically, from a remote centralized location, the selection of services received by individual customers.

[631] *1999 Report*, 15 FCC Rcd at 1065 ¶ 200. *See also* Price Colman and John M. Higgins, *Icy After the Sunset*, Broadcasting & Cable, March 22, 1999, at 38.

[632] Don West, 2000 *Millennavision*, Broadcasting & Cable, January 3, 2000, at 38.

description.[633] In the *Notice*, we sought comment on SAP channel capacity in order to assess how this technology is being deployed.[634]

200. Although we did not receive specific information about SAP channel capacity resulting from upgrades, we have found that some video programming distributors currently use the SAP to offer the choice between simultaneous English and Spanish audio. Each of the top four commercial broadcast TV networks has provided a Spanish language soundtrack as a second audio program, on at least an occasional basis.[635] For example, ABC simulcasts its evening news and Monday Night Football in Spanish. HBO uses its SAP channel to provide a Spanish soundtrack for many of its programs and movies. There has been some limited use of the SAP channel for video described programming. PBS currently distributes a variety of regularly scheduled programming with video description, including *Arthur*, *Mister Rogers' Neighborhood*, *Mystery!*, *Nova*, *Masterpiece Theatre*, and *Nature*.[636] Turner Classic Movies offers video described movies every Sunday evening and other described programming throughout the week.[637] In addition to Spanish language and video description, the Weather Channel recently announced plans to use the SAP to add audio segments to the local weather inserts that appear during its programming.[638]

201. ***Electronic Programming Guides***. Electronic Programming Guides ("EPG"s) continue to raise concerns because of their potential to influence channel selection and facilitate current and future interactive television functions.[639] In addition, recent law suits between Gemstar-TV Guide, the leading EPG firm, and DBS operator EchoStar have raised antitrust and copyright infringement issues.[640] The Commission has stated that it is "committed to encouraging the development of the market for electronic programming guide services."[641]

202. On February 22, 2000, an agreement was reached between the Consumer Electronics Association ("CEA") and NCTA concerning the provision of program schedule and other information to

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[633] *Implementation of Video Description of Video Programming,* MM Docket No. 99-339, Report and Order ("*Video Description Order*"), 15 FCC Rcd 15230 (2000).

[634] *Notice*, 15 FCC Rcd at 13573 ¶ 36.

[635] *Video Description Order*, 15 FCC Rcd at 15235-6 ¶¶ 12-14.

[636] *See* DVS on TV at http://main.wgbh.org/wgbh/access/dvs/dvstv.html.

[637] *Id*.

[638] Glen Dickson, *Weather Channel Gets New Voice.(Enhancing Local Weather Coverage With Audio Segments*, Broadcasting & Cable, December 6, 1999, at 74.

[639] John M. Higgins, *What Networks Fear*, Broadcasting & Cable, September 25, 2000, at 10.

[640] EchoStar filed an antitrust suit in U.S. District Court, Denver, and counterclaim action against Gemstar. EchoStar alleged that Gemstar's licensing practices violated various federal and state antitrust laws on unfair competition. *EchoStar Accuses Gemstar Of Antitrust Violations*, Satellite Week, December 11, 2000. Gemstar International Group Ltd. has for many years been the major provider of EPGs to VCR, television, and set-top box manufacturers. In October 1999, Gemstar accepted an offer to merge with its former rival, TV Guide. *See 1998 Report*, 13 FCC Rcd at 24385 ¶¶ 182-3 for a full description of Gemstar's technology. *See also Son of Merger of Equals: Gemstar*, TV Guide Make Love, Not War, CableFAX Daily, October 5, 1999.

[641] *See Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Report and Order, 13 FCC Rcd 14775, 14820 ¶ 116 (1998).

support the navigation function of DTV receivers, including on-screen program guides or EPGs.[642] The Commission anticipates that the implementation of the agreement will result in the adoption of certain standards for EPGs and will continue to monitor the progress made in implementing the agreement.[643]

203. ***Programming Costs***. The Commission's most recent report on cable industry prices ("*1999 Price Survey Report*") asked cable operators to describe factors that led to changes in their rates. Both competitive and noncompetitive cable operators attributed more than half, 53 percent and 51 percent, respectively, of their rate increases to increases in programming costs.[644]

204. Cable networks are projected to spend almost $6.5 billion on programming in 2000. This figure includes all categories of programming – originals, acquisitions, movies and sports – and is double the expenditures made five years ago.[645] Increased costs for sports programming and increasing competition for off-network acquisitions are said to be the driving factors in rising programming costs. ESPN, for example, recently raised its license fees to operators by 20 percent.[646] As a result, ESPN will reportedly cost operators $1 to $1.20 per subscriber per month. By comparison, most non-sports channels have a licensing fee of less than 20 cents per subscriber per month.[647]

C. Technical Advances

205. Cable operators and other MVPDs continue to develop and deploy advanced technologies, especially digital compression techniques, to increase the capacities and to enhance the capabilities of their transmission systems.[648] These technologies allow MVPDs to deliver additional video options and other services (e.g., data access, telephony) to their subscribers. In addition, cable operators continue to rebuild their cable plants and to upgrade their facilities for bandwidth expansion through other technical means, such as the electronic component upgrading of existing amplifiers, in order to offer more

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[642] *See* http://www.ce.org/newsroom, *CEA and NCTA Reach Agreement Enabling Compatibility Between Cable Television Systems and Digital Televisions* (press release), February 23, 2000. This information is generally referred to as "PSIP" (Program and System Information Protocol) information. The February 22, 2000, agreement outlined a series of steps that the industries need to take in order to ensure provision of this information to DTV receivers.

[643] The agreement did not propose Commission action with respect to PSIP and the parties to the agreement do not seek Commission intervention.

[644] Inflation, channel additions, system upgrades, and equipment costs were also said to account for a large portion of rate increases. *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 ("*1999 Price Survey Report*"), 15 FCC Rcd 10927, 10940-41 ¶¶ 31-32 (2000).

[645] Deborah D. McAdams, *18-34; MTV, Discovery, E!, USA, TBS, Lifetime And FX Lead The Way To Youthful Demo,* Broadcasting & Cable, October 9, 2000, at 50.

[646] Steve McClellan; John M Higgins, *Disney Triumphant,* Broadcasting & Cable, May 8, 2000, at 8. *See also* Kathy Haley, *Blazing a Trail*, Cablevision, September 13, 1999, at 6A.

[647] The published "top of the rate card" license fee is often discounted. For example, the Fox Family channel has a rate card fee of $0.26 per subscriber per month. This rate is discounted, on average, approximately 40 percent to $0.16 per subscriber per month for many operators. *See Fox Family Economics*, Cable Program Investor, July 17, 2000, at 2. *See also Cable Network Affiliate License Fees: Top of the Rate Card*, Cable Program Investor, June 16, 1999, at 10-11.

[648] *See 1999 Report,* 15 FCC Rcd at 1066-7 ¶¶ 206-208. *See also* ¶¶ 40-44, 101-104 *supra*.

video programming and other services.[649] In the last year, there have been a number of developments concerning navigation devices and cable modems that are used to access the wide range of services offered by MVPDs. In this section, we address interactive television technologies and update the information provided in the *1999 Report* regarding navigation devices and cable modems.

1. Interactive Television

206. Interactive television ("ITV") services are beginning to be offered through cable, satellite, and terrestrial technologies.[650] ITV provides or has the potential to provide a wide range of services, including video on demand ("VOD"), e-mail, TV-based commerce ("e-commerce"), Internet access, personal video recorder ("PVR") functionality, programming-related content, and electronic couponing.[651] A cable subscriber accesses ITV services through a digital set-top box in the home and a content server at the cable headend.[652] The latest digital set-top boxes cable operators have been deploying to add programming, which closely resemble mini-PCs, offer enough storage capacity to allow for feature and graphic rich interactive services. In order to offer interactive services, the cable operator chooses an operating system on the set-top box and service options.[653] Among the first uses of ITV is VOD.[654] The largest cable operators are beginning to deploy or are testing VOD, which qualifies as interactive because the consumer chooses when to buy the programming and gets a personal session with full control.[655] VOD is currently being offered on at least six large cable systems: Cox systems in San Diego and Phoenix; Time Warner systems in Tampa Bay, Honolulu, and Austin; and the Charter system in Los Angeles. In addition to movies, the on-demand platform can be used to offer other specialized programming services (e.g., music videos, children's programming, ethnic programming) on a subscription or per program basis. One VOD service, Concurrent, is developing a personal video channel that will offer functionalities similar to a PVR. Beyond VOD, three types of ITV services are being developed or deployed by companies such as OpenTV. These services are (1) an overlay on the broadcast channel content, which will be available for free and will look like traditional television content, (2) a virtual channel that will be used for e-commerce and e-mail, and (3) a service that will allow the user to access Internet content through television.[656]

207. DBS operators and broadcasters also are entering the ITV market. EchoStar offers its subscribers an interactive program guide and weather service from OpenTV and will soon launch Wink-enhanced TV, which allows viewers to use their remote controls to access program-related information, request product samples or free coupons, or purchase merchandise directly from television.[657] DirecTV is

[649] *1999 Report*, 15 FCC Rcd at 1067 ¶ 209.

[650] CableFAX Daily, Nov. 14, 2000, at 2.

[651] Ken Kerschbaumer, *Fulfilling the Promise*, Broadcasting & Cable, July 10, 2000, at 22-34 ("Kerschbaumer").

[652] *See* ¶ 54 *supra*.

[653] Among the companies providing operating systems on set-top boxes are Microsoft, OpenTV, and PowerTV. Companies that offer service options include Intertainer, Diva, ICTA, Wink, and RespondTV. Kerschbaumer at 22.

[654] The principal VOD service technology providers are Concurrent Computer, Diva, and SeaChange. Kerschbaumer at 23.

[655] *See* Kerschbaumer at 24-32.

[656] Kerschbaumer at 23-24.

[657] *EchoStar, Opentv Agree to Deliver Wink's Enhanced Broadcasting and "T-Commerce" Nationwide to Dish Network Satellite TV Viewers* (press release), June 26, 2000, http://www.wink.coom/contents/PressReleases/962039114/content.shtml.

introducing an ITV-enabled receiver using Microsoft technology and the Wink service that will allow viewers to record programming for later viewing, respond to on-air promotions using a remote, and use e-mail.[658] Of the four major television networks, ABC is offering "enhanced TV" for some of its programming that allows viewers to use their personal computers to access interactive content synchronized with its network programming (e.g., play along with *Who Wants to Be a Millionaire?*).[659] NBC offers WebTV enhanced broadcasts, primarily for news and sports, and plans to introduce a Saturday morning programming block for teens enhanced with interactive features, such as TV-based chats, message boards, and e-mails.[660] CBS has partnered with WebTV to offer on-demand access via remote control for program-related information and e-commerce, live polling, and chat capabilities.[661] Fox plans to launch Wink-enhanced technology to add interactive features to its entertainment programs, including program-specific information and interactive advertising capabilities, that can be accessed through a remote control.[662]

2. Navigation Devices

208. Section 629 of the Communications Act directed the Commission to adopt rules that allow consumers to obtain "navigation devices," such as cable set-top boxes, remote control units, and other equipment, from commercial sources other than their cable providers.[663] The purpose of section 629 and the Commission's rules adopted to implement it are to further the goal of providing competition in the communications marketplace by facilitating consumers' ownership of the equipment used to access video programming and other services. Specifically, in 1998, the Commission adopted rules that require MVPDs to unbundle security from other functions of the navigation device and by July 1, 2000, make available point-of-deployment modules ("PODs") to perform this function.[664] On reconsideration, the

[658] ITV Report, *DirecTV to Use Microsoft's Ultimate TV Platform in a New RCA DirecTV System*, June 12, 2000, http://www.itvreport.com/news/0600/061200microsoftdirectv.htm; ITV Reports, *DirecTV Previews New Interactive Channels*, Oct. 23, 2000, http://itvreport.com/news/1000/102300directv.htm; *Microsoft, DirecTV and Thomson Multimedia Join forces to make Television More Personal and Interactive* (press release), June 12, 2000, http://www.webtv.com/companuy/pres/direct_thompson.html.

[659] ITV Report, *ABC's Enhanced TV Telecasts Attract Record Number of Viewers*, Sept. 13, 2000, http://www.itvreport.com/news/0900/091300abcetv.htm; http://heavy.etv.go.com/etvHome/mil/site/what.html.

[660] ITV Report, *NBC to Create Interactive Programming for Teens*, Oct. 12, 2000, http://itvreport.com/news/1000/101200opentv.htm.

[661] *CBS Television and Microsoft WebTV Networks to Deliver Broad Slate of Interactive Television Programming* (press release), Sept. 7, 2000, http://www.webtv.com/company/press/CBS.html; ITV Report, *CBS and Microsoft Form Enhanced TV Programming Alliance*, Sept. 7, 2000, http://www.itvreport.com/news/0900/090700cbs.htm.

[662] *Wink Empowers Fox Prime Time Entertainment Schedule with Interactive Television Enhancements* (press release), Oct. 18, 2000; http://www.wink.com/content/PressReleases/971887924/content.shtml.; ITV Report, *Fox Prepares to Launch Wink-enhanced Broadcasting*, Oct. 19, 2000, http://www.itvreport.com/news/1000/101900winkfox.htm.

[663] 47 U.S.C. § 549.

[664] *Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Report and Order, 13 FCC Rcd 14775 (1998) ("*Navigation Report and Order*"). On August 14, 2000, the Commission adopted a *Memorandum Opinion and Order*, which granted waivers of the July 1, 2000, compliance date for several cable operators that utilize hybrid navigation devices. The Commission established a revised compliance date for each of the individual systems involved, with no waiver granted beyond December 31, 2001. *Charter Communications, Inc., AT&T Broadband, L.L.C., Insight Communications Company, L.P., Cox Communications, Inc., GCI Cable Inc., Cablevision Systems Corp., Adelphia Communications Corp., MediaCom Communications Corp., CableAmerica Corp., Time Warner Cable, Petition for Waiver of the* (continued…)

Commission deferred application of the rules requiring a separate security module for analog-only devices.[665] Thus, an MVPD subscriber will be able to obtain a set-top box without the security features ("host device") from retailers and only remain reliant on the MVPD to provide a POD for security functions.[666]

209. When the navigation device rules were adopted, the Commission stated that it would monitor the development of the commercial availability of navigation devices and, in 2000, commence a proceeding to review of the effectiveness of the rules and to consider any necessary changes.[667] In this regard, on September 18, 2000, the Commission released a *Further Notice* seeking comment on: (a) whether the interface specifications developed by CableLabs allow consumer electronic manufacturers to build equipment that provides consumers a viable alternative to equipment provided by their cable operator; (b) the effect operator provision of integrated equipment has had on achieving a competitive market and whether the 2005 date for the phase-out of integrated boxes remains appropriate; (c) obstacles or barriers preventing or deterring the development of a retail market for navigation devices; and (d) what actions, if any, the Commission should initiate to achieve the statutory objective of competition in the navigation devices market. In addition, the Commission issued a *Declaratory Ruling* addressing a copy protection licensing agreement under development by CableLabs, the Dynamic Feedback Arrangement Scrambling Technique ("DFAST"). In various proceedings, interested parties alleged that this agreement violated the Commission rules because it requires that a copy protection encryption system be located in host devices contrary to the requirement that a cable operator's conditional access, or security, functions must be located in a separate POD device. In the *Declaratory Ruling*, the Commission noted that in the initial *Navigation Devices Report and Order* we contemplated the inclusion of copy protection measures in host devices and that such measures would not violate the security separation requirement. The Commission directed industry participants to finalize their negotiations and to report on the status of the DFAST license within 30 days of release of the *Declaratory Ruling*, including a final version of a completed DFAST license agreement. On October 18, 2000, CableLabs and its members reported that substantial progress had been made regarding the specific terms of the copy protection requirements.[668]

(…continued from previous page)
Requirement To Provide Point of Deployment Modules Contained in Section 76.1204 of the Commissions Rules, CSR Nos. 5545-Z, 5548-Z, 5558-Z, 5561-Z, 5564-Z, 5566-Z, 5567-Z, 5569-Z, 5570-Z, 5572-Z, Memorandum Opinion and Order, 15 FCC Rcd 15075 (2000).

[665] 47 C.F.R. § 76.1204. *See also Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Order on Reconsideration, 14 FCC Rcd 7596 (1999).

[666] The POD requirement is intended to permit portability among set-top boxes, which will increase the market base and facilitate volume production and market costs. *Navigation Report and Order*, 13 FCC Rcd at 14793-4 ¶ 49.

[667] *Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Further Notice of Proposed Rule Making and Declaratory Ruling, 15 FCC Rcd 18199 (2000).

[668] Letter from Richard R. Green, Ph.D., President and Chief Executive Officer, CableLabs, to Magalie R. Salas, Secretary, FCC, October 18, 2000. CableLabs stated it would submit another status report in 30 days and the final agreement as soon as it was released. On November 17, 2000, CableLabs reported that it was in the process of resolving a few remaining issues regarding copyright protection and committed to submit the final PHI license agreement to the Commission by December 15, 2000. *See* Letter from Richard R. Green, Ph.D., President and Chief Executive Officer, CableLabs, to Magalie R. Salas, Secretary, FCC, November 17, 2000.

On December 15, 2000, CableLabs submitted a final version of the DFAST license (now referred to as the POD-Host Interface, or PHI license).[669]

210. Through the OpenCable project of CableLabs, cable industry groups have produced a set of interface specifications for digital set-top boxes, including the definition of a removable security function.[670] As part of the standards setting process, the cable industry was required to file semi-annual reports with the Commission to assure that there is steady progress in meeting the schedule for development of specifications for a digital security POD module and for a digital security module interface.[671] In its most recent report, submitted on July 7, 2000, the industry reports that cable operators met the July 1, 2000, deadline to have digital separate security modules available for consumers who obtain their digital host set-top boxes at retail stores because digital separate security modules from two manufacturers were verified as interoperable by CableLabs.[672] The cable industry maintains that manufacturers of retailer-supplied boxes have all of the "build to" specifications they need to build a first generation, OpenCable compliant set-top box, although apparently no retailer has placed orders for such boxes.[673] In addition, CableLabs is continuing its efforts to develop next generation navigation devices with "middleware" designed to enhance the portability of OpenCable products across brands and operating systems.[674] The industry also reports that cable operators have undertaken a number of approaches to come into compliance with the navigation devices rules, including the duplication of analog scramble programming on digital tiers.[675] The Consumer Electronics Retailers Coalition ("CERC"), however, maintains that the OpenCable project has failed to produce specifications that allow the manufacture of competitive products.[676]

3. Cable Modems

211. A cable modem allows cable subscribers to access high speed data services and interactive television, including the Internet, Internet Protocol ("IP") telephony, video conferencing, and

[669] *See* Letter from Richard R. Green, Ph.D., President and Chief Executive Officer, CableLabs, to Magalie R. Salas, Secretary, FCC, December 15, 2000.

[670] http://www.opencable.com. CableLabs also tests and certifies the interoperability of OpenCable devices. *See also 1999 Report*, 15 FCC Rcd at 1068-9 ¶ 211.

[671] *Navigation Report and Order*, 13 FCC Rcd at 14808-9, 14827-8 ¶¶ 81, 139.

[672] *Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Status Report, filed July 7, 2000 ("July Status Report") at 1, 4-5. *See also* CableLabs, *CableLabs Completes OpenCable Test Wave; Digital Security Modules Now Available* (press release), June 29, 2000, http://www.cablelabs.com/news_room/PR/oo_pr_oc_pod_62900.html.

[673] July Status Report at 6-9. The cable industry notes that retailers argue that they have not placed orders for digital set-top boxes for reasons ranging from dissatisfaction with the specifications to a desire to wait for the development of more profitable integrated DTV sets. *Id.* at 11-13.

[674] *Id*. at 9.

[675] *Id*. at 13-19.

[676] Response of the Consumer Electronics Retailers Coalition to the July 7, 2000, Cable Industry Status Report, filed in CS Docket No. 97-80, Aug. 2, 2000. CERC contends that the OpenCable specification does not support features that are required to allow products to be competitive with MSO provided products. Specifically, CERC argues that to be useful to consumers as purchases, (1) the devise itself should offer one-button interactivity in the selection of on-demand programming or other services, just as MSO provided devices do today and (2) the product must access, perform, interact with and otherwise support all functions provided on any OpenCable MSO system.

telecommuting. Cable modem deployment continues to increase.[677] As we previously reported, the CableLabs Certified Cable Modem Project (formerly known as Data Over Cable Service Interface Specification or DOCSIS) defines interface requirements for high speed cable modems and provides a method for certifying that cable modems available for retail sale are in compliance with the DOCSIS specifications.[678] As of October 2000, CableLabs had certified 38 companies for about 100 cable high speed data devices.[679] This includes two peripheral component interconnect ("PCI") modems that are built inside personal computers.[680] DOCSIS certified cable modems are now being sold at retail in some markets.[681] For example, DOCSIS certified modems are available for sale to Cox Cable customers at a Circuit City store in Fort Walton Beach, Florida, its own branded store in New Orleans, and CompUSA stores in Oklahoma City, New England, Phoenix, New Orleans, and Northern Virginia.[682] However, widespread retail availability has not yet occurred.[683]

212. PacketCable, another CableLabs project, is intended to develop interoperable interface specifications for delivering advanced, real-time multimedia services over two-way cable plant. PacketCable will use IP technology to enable a wide range of services, including IP telephony, multimedia conferencing, interactive gaming, and general multimedia applications.[684] In July 2000, CableLabs announced that it had successfully completed the second round of the PacketCable interoperability test and has begun releasing the compliance test plans that will provide a tool for gauging conformance of vendors' products with the PacketCable interface specifications.[685]

IV. COMPETITIVE RESPONSES

213. In this section, we describe the initial responses of both incumbents and new entrants in several local franchise areas where the incumbent cable operator is facing competition from a new entrant. Generally, we find that in communities where head-to-head competition is present, the incumbent cable operator has responded to competitive entry in a variety of ways, such as lowering prices, providing additional channels at the same monthly rate, improving customer service, adding new services including high speed Internet and telephone services, or by challenging the legality of the entrant's activities.

214. We first examine several cases where the incumbent cable operator faced competition from new entrants. In each of these cases, the Commission has made a determination that "effective

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[677] *See* ¶¶ 47-50 *supra*.

[678] *1999 Report*, 15 FCC Rcd at 1069 ¶ 212. *See also* http://www.cablemodem.com; http://cablemodem.com/certification.html.

[679] CableLabs, *CableLabs Certifies More Modems* (press release), October 20, 2000, http://www.cablelabs.com/news_room/PR/00_pr_cw15_more_modems_102000.html.

[680] *Id*. *See also* Fred Dawson, *3Com's PC Cable Modem Could Be Retail Pioneer*, Multichannel News, May 17, 1999, at 55.

[681] http://www.cabledatacomnews.com/cmic/cmic2.html.

[682] Monica Hogan, *MSOs Tread Carefully Into Retail World*, Multichannel News, May 1, 2000, at 116.

[683] http://www.cabledatacomnews.com/cmic/cmic2.html.

[684] *See* http://www.packetcable.com. *See also 1999 Report*, 15 FCC Rcd at 1070 ¶ 214.

[685] CableLabs, *PacketCable Ends Round 2 Testing, Releases Draft Compliance Test Plans* (press release), July 21, 2000, http://www.cablelabs.com/news_room/PR/00_pr_pc_testing_72100.html.

competition" exists.[686] We then summarize our preliminary findings based on the case studies and examine the nature and duration of competitive responses of incumbents and new entrants.

A. New Case Studies

1. Atlanta, Georgia, and Nearby Communities

215. In June 1998, BellSouth Entertainment ("BSE"), a wholly owned subsidiary of BellSouth Corporation and an affiliate of BellSouth Telecommunications, Inc., began providing digital MMDS service to Atlanta and its surrounding areas.[687] These communities around Atlanta are all served by MediaOne, the incumbent.[688] BSE's MMDS transmitter sites provided a 35-mile predicted contour around Atlanta. This overlapped the incumbent cable operator's service areas and provided approximately 700,000 Atlanta area subscribers with the ability to choose between subscribing to the incumbent cable operator or BSE for their multiple video programming service.

216. BSE aggressively marketed its wireless digital services in Atlanta and the surrounding area in newspaper advertisements and billboards. It intended to lure cable subscribers, not through price competition, but with the promise of clear digital pictures and an array of choices, including up to 50 pay-per-view channels.[689] As an initial promotional offer, BSE offered 160 digital channels, which included a number of premium channels as well as local broadcast stations, for $49.98 for two months.[690] Initially, BSE also charged $64.99 for installation. Subsequently, BSE began offering its 160 channel "premium pack," including local broadcast stations, for $36.49 per month. For a limited time, BSE offered a rebate of one month's subscription fee, or the equivalent of the first month free to its premium pack subscribers, and lowered the charge for installation to $29.99. BSE offered a two-year rate guarantee to its "preferred customers" if they would agree to a 24 or 36 months commitment to buy video service from BSE. It also promoted "one-stop-shopping" by offering mobile telephone service, Internet service, and combined billing for home telephone, cellphone, and Internet and business telephone service to its subscribers.[691] As of February 1999, BSE gained approximately 18,500 subscribers for its MMDS service, or 4.3 percent of all households in the Atlanta area.

217. MediaOne of Colorado, Inc. ("MediaOne") is the incumbent cable television operator in Atlanta, Georgia, and 56 surrounding communities, all of which overlap BSE's service area.[692] After BSE's entry into the Atlanta area, MediaOne spent $350 million to upgrade its Atlanta area systems, reconfigure its channel line-up to create more competitive product offerings, launch digital cable, and increase its marketing budget.[693] MediaOne contended that it did not want to engage in a "price war" with

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[686] 47 C.F.R. § 76.905(b).

[687] *MediaOne Petition for Determination of Effective Competition in Atlanta, Georgia and Nearby Communities*, CSR 5413-E ("*MediaOne Petition*"), July 8, 1999, at 1-2.

[688] Jarred Schanke, *BellSouth, MediaOne May Vie for Cable Viewers*, Marietta Daily Journal, February 20,1999, at B1.

[689] Michael E. Kanell, *BellSouth Plugs into Wireless TV*, The Atlanta Constitution, at A1.

[690] *MediaOne Petition* at Exhibit 13.

[691] *Id.* at Exhibit 13.

[692] On June 15, 2000, AT&T and MediaOne Group announced completion of their merger. At that time, MediaOne became integrated with AT&T broadband. AT&T, *AT&T Closes MediaOne Merger* (press release), June 15, 2000.

[693] *MediaOne Petition at 14.*

its rival.[694] Instead, MediaOne discontinued its new product tier and moved those channels to its expanded basic programming tier, thus delivering more channels at the same price. MediaOne offered digital services for less than $10 per month with free upgrade installation and a new 17 channel movie package free for three months.[695]

218. In July 1999, MediaOne filed a Petition for Determination of Effective Competition for its systems operating in Atlanta and the surrounding area.[696] The Cable Services Bureau granted the petition on July 28, 2000.[697] The Bureau found that 56 MediaOne communities lie within the interference-free contours of BSE's MMDS transmitters. Also, BSE's extensive marketing efforts ensure that potential subscribers are reasonably aware of its services.[698]

2. Lexington and Davidson County, North Carolina

219. Lexcom Cable Services ("Lexcom"), a wholly-owned subsidiary of Lexington Communications, Inc., an independent local exchange carrier, received a local cable franchise from the City of Lexington on May 17, 1997, and from Davidson County on May 27, 1997. Lexcom began providing cable services in Lexington and Davidson County in October 1997.[699] Lexcom offered 11 basic channels for $6.05 per month, 47 expanded basic channels for $24.90 per month, and HBO, Cinemax, Showtime and The Movie Channel for $8 each per month. Lexcom also offered two pay-per-view channels.[700] Since Lexcom distributed cable services without a converter or "set-top" box, its subscribers were able to use the "picture-in-picture" function of their TV sets while watching cable programming.[701]

220. TWI Summit Communications/Summit Cable Services of Thom-a-Lex, Inc., and TW Fanch-One Co. ("Time Warner") is the incumbent cable television operator in the City of Lexington, North Carolina, and the two contiguous communities of Davidson and Rocky Mount. Two days after Lexcom began operating, Time Warner filed suit against Lexcom accusing its competitor of damaging its lines and trespassing.[702] In its suit, Time Warner alleged that Lexcom moved its line illegally, without permission, and while doing so damaged Time Warner's lines and equipment. Time Warner lost approximately 225 of its subscribers to Lexcom within Lexcom's first few months of service.[703] In response to Lexcom's entry, Time Warner proposed adding 32 channels to its video programming

[694] Matt Kempner, *Competition in Cable TV a Good Show for Subscribers*, The Atlanta Journal Courier, November 28, 1997, at 12.

[695] *MediaOne Petition* at Exhibit 18.

[696] *Id.* at 1.

[697] *MediaOne Petition for Determination of Effective Competition in Atlanta, Georgia and Nearby Communities*, CSR 5415-E, Memorandum Opinion and Order ("*MediaOne Order*"), 15 FCC Rcd 13287, 13290 ¶ 7 (2000).

[698] *Id.* at 13288 ¶ 5.

[699] *Time Warner Petition for Determination of Effective Competition in Lexington and Davidson County, North Carolina* ("*Lexington Petition*"), CSR 5218-E, February 18, 1988, at Exhibit B.

[700] *Id.* at Exhibits D and G.

[701] *Id.* at Exhibit K.

[702] Craig Allen, *Time Warner Sues Lexcom*, Lexington Dispatch, October 11, 1997, at A-1.

[703] *Lexington Petition* at 7.

services.[704] Recently, Time Warner completed its system upgrade. In addition to its basic service, it began providing digital service to its subscribers at an additional cost.[705]

221. In March 2000, Lexcom launched cable modem service. Lexcom also added a new parental control feature to its service that allows parents to block adult-oriented programs from their children. It reduced the monthly charge for expanded basic service from $30.95 per month to $28.95 per month.[706] Time Warner launched its cable modem service in October 2000. As of October 2000, Time Warner was charging $30.95 for its expanded basic service.[707]

222. In February 1998, Time Warner filed a Petition for Determination of Effective Competition for its systems operating in Lexington, Davidson and Rocky Mount.[708] The Bureau granted the Petition in July 2000.[709] The Bureau found that Lexcom is able to provide cable service that overlaps both Time Warner's service and service areas.[710]

3. Wapakoneta, Ohio

223. On May 6, 1998, the City of Wapakoneta awarded a franchise for cable television service in Wapakoneta to TSC Communications, Inc., d/b/a/ TSC Television ("TSC"). TSC is a wholly-owned subsidiary of Telephone Service Company, an independent telephone company which provides local exchange service to the city. Prior to beginning its cable service in Wapakoneta, TSC promoted its planned service to potential subscribers through advertising, an Internet web site, local seminars, and tours of its cable facilities. TSC was also featured in a number of local newspaper articles and advertised its services on the local telephone company's home page.[711] TSC also made it possible for potential subscribers to sign up for service on line by using the local telephone company's Internet site.[712]

224. TSC began providing cable service to Wapakoneta on March 22, 1999.[713] TSC's system used advanced hybrid fiber coaxial technology to distribute cable programming. It offered more than 70 channels of non-broadcast cable programming services such as ESPN, HBO, and CNN, as well as local television broadcast channels.[714] TSC charged $28.65 per month for its 60 channel basic service tier. Its

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[704] *Id.* at 11.

[705] *Consumers Benefit When Competition Occurs*, The Dispatch , November 11, 1999, at 1 and 2.

[706] Vikki Broughton Hodges, *Lexcom Cable Offers New Features, Discount*, The Dispatch, July 3, 2000, at 1 and 2.

[707] Vikki Broughton Hodges, *Time Warner Launches Cable Modem Service*, The Dispatch, October 6, 2000, at 1-3.

[708] *See Lexington Petition.*

[709] *Time Warner Petition for Determination of Effective Competition in Lexington and Davidson County, North Carolina*, CSR 5218-E, Memorandum Opinion and Order ("*Lexington Order*"), 15 FCC Rcd 12705, 12707 ¶ 7 (2000).

[710] *Id.* at 12706 ¶ 5.

[711] *Time Warner Petition for Determination of Effective Competition in Wapakoneta, Ohio*, CSR 5405-E ("*Wapakoneta Petition*"), May 24, 1999, at Exhibits A and B.

[712] *Id.* at Exhibit C.

[713] *Time Warner Petition for Determination of Effective Competition in Wapakoneta, Ohio*, CSR 5405-E, Memorandum Opinion and Order ("*Wapakoneta Order*"), 15 FCC Rcd 8152, 8153 ¶ 4 (2000).

[714] *Wapakoneta Petition* at 6.

basic tier included channels such as Disney Channel and ESPN.[715] TSC employed a new interdiction system which eliminated the need for the cable set-top box. As of April 2000, TSC had 150 subscribers and it was expected to serve 3,000 additional subscribers in Wapkoneta and surrounding areas by year's end.[716]

225. Time Warner Entertainment Company, L.P. ("Time Warner") is the incumbent cable television operator in Wapakoneta, Ohio. It passes 100 percent of the households in Wapakoneta. The territorial boundaries of each cable television franchise holder, both the entrant and the incumbent, encompass the same territorial boundaries in the Wapakoneta area.

226. Prior to TSC's entry, Time Warner offered 30 channels on its basic tier. Upon TSC's entry, Time Warner, began offering 29 additional channels to its basic tier subscribers. Its basic tier, like TSC's basic tier, also included channels such as Disney Channel and ESPN. Time Warner was charging $27.87 for its basic tier of programming.[717] According to Time Warner it had lost approximately 80 subscribers to TSC at the time it filed its Petition with the Commission.[718]

227. In May 1999, Time Warner filed its Petition for Determination of Effective Competition arguing that it faced effective competition from TSC.[719] The Bureau granted the Petition on May 9, 2000, recognizing that potential subscribers were reasonably aware of the availability of TSC's services, and that TSC is able to provide cable service that overlaps Time Warner's service.[720]

4. Various Communities in Orange County, Florida

228. In 1998, two DBS providers, DirecTV and EchoStar, and an unaffiliated cable operator, Telesat Acquisition Limited Partnership ("Adelphia"), began providing cable programming services, comparable to those provided by the incumbent, Time Warner, in six communities in Orange County, Florida.[721]

229. According to local advertisements, DirecTV offered up to 55 pay-per-view movie choices per night, 14 different premium channels, 13 sports channels, and over 40 of "your favorite channels" for as little as $19.99 per month.[722] EchoStar offered services for $19 per month including local channels and 12 free months of a premium channel, 160 digital channels for about "$1 a day", two free months of service, various other incentive packages, and equipment systems priced at anywhere between $89 and $179 with free delivery.[723] Adelphia offered one free month of "value service", one free month of HBO and Showtime, and free installation for up to three outlets. Rates for its packaged services ranged from

[715] *Id.* at Exhibit C.

[716] Ronald Lederman, *Oxley Praises Local Cable Competition*, The Lima News, April 9, 1999, at B1.

[717] *Id*.

[718] *Wapakoneta Petition* at 6.

[719] *Id.* at 1.

[720] *Wapakoneta Order*, 15 FCC Rcd at 8153 ¶ 5.

[721] *Time Warner Petition for Change in Regulatory Status* ("*Orange County Petition*"), September 3, 1998, at 2.

[722] *Id.* at Exhibit A.

[723] *Id.* at Exhibit A.

$27.45 to $47.35 per month. Along with its programming services, Adelphia also offered pager and long distance telephone service.[724]

230. According to Time Warner, out of 155,874 households in its service area, Adelphia and the DBS providers serve 38,750 subscribers, i.e., approximately 25 percent of the households.[725] In the affected Orange County communities, Time Warner responded to the newly introduced competition by offering various service packages ranging from $22.01 to $36.49 per month. It also offered separate premium packages ranging from $9.95 to $24.95 per month and reduced its basic service tier price to $8.05 per month.[726]

231. In September 1998, Time Warner filed a petition challenging the certification of Orange County, Florida, to regulate its basic cable service and equipment rates in the six affected Orange County communities.[727] In May 2000, the Bureau granted Time Warner's petition.[728] The Bureau found that Adelphia and the two DBS providers provide service to 25 percent of the households in Time Warner's service area and that Adelphia is able to provide MVPD service to households in Time Warner's service area without any regulatory, technical, or other impediments.[729]

5. Laurens, Iowa

232. In January 1997, the citizens of Laurens, Iowa, voted to have Laurens Municipal Communications Utility ("LCMU") operate a cable system in Laurens. That cable system began operating in December 1998.[730] LMCU is owned and operated by the City of Laurens.[731] LMCU charged $20.95 per month for a 43 channel basic service tier. Premium packages, each package consisting of several channels, were offered at $10.95 per month.[732] LCMU also offered free cable service through the end of January 1999 to those who signed up before December 31, 1998. As of February 1999, LCMU's cable system passed 100 percent of the 715 households in the City of Laurens, and was providing cable service to 495 of those households.[733] According to one report, a majority of LCMU's subscribers formerly subscribed to the incumbent cable system.[734]

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[724] *Id.* at Exhibit E.

[725] *Id.* at 8.

[726] *Id.* at Exhibit D.

[727] *Id.* at 1.

[728] *Time Warner Petition for Determination of Effective Competition in Orange County, Florida*, Memorandum Opinion and Order ("*Orange County Order*"), 15 FCC Rcd 8852, 8855 ¶ 8 (2000).

[729] *Id.* at 8854 ¶ 7.

[730] *TCI Petition for Revocation of Certification for the City of Laurens, Iowa to Regulate Basic Cable Service and Equipment Rates*. ("*TCI Petition*"), March 22, 1999, at 3.

[731] *Id.* at 3.

[732] Gregory A. Moberly, *Laurens' Cable TV System On Its Way,* Fort Dodge, Iowa Messenger, November 25, 1998.

[733] *TCI Petition* at Exhibit F.

[734] Gregory A. Moberly, *Laurens' Residents can Choose Between Two Cable Companies*, Iowa Messenger, January 16, 1999, at B1.

233. TCI of the Heartlands ("TCI") is the incumbent cable television operator in Laurens. As of March 1999, TCI provided service to 139 of the 715 potential subscribers in Laurens.[735] Prior to LMCU's entry, TCI had 23 channels on its basic service tier. In response to LCMU's entry into the Laurens franchise area, TCI upgraded its system, added 22 new channels to its basic service, split its basic-only line up into separate basic and expanded basic tiers, and launched a digital tier.[736] TCI was charged $21.25 per month for its 45 channel extended basic service. TCI also offered digital service for $10 with an additional charge of $3.55 for equipment.[737] LCMU did not offer any digital tier.

234. In March 1999, TCI filed a Petition for Revocation of Certification of the City of Laurens to Regulate Basic Cable Service and Equipment Rates because TCI, in Laurens, was subject to effective competition.[738] In May 2000, the Bureau granted TCI's Petition.[739] The Bureau found that LCMU's municipally owned cable system passed more than 50 percent of the households in the area and that LCMU and TCI have similar program offerings.

B. Preliminary Findings

235. The case studies of communities where the Commission has found "effective competition" suggest that subscribers have benefited from "head-to-head" competition. Generally, in the communities studied, subscribers have seen decreased monthly charges for services and equipment. They have received additional program offerings and have access to "bundled" telecommunications services. Subscribers also have new digital services available.

236. It appears that the incumbent operators in the localities described above have made use of both "price" and "non-price" competitive responses. The cases described above also indicate that one of the new entrants in Orange County sought to attract subscribers by providing "bundled" pager and long distance service. To counter these service offerings, the incumbent operator in Orange County responded by reducing the rate for its basic service tier and increasing the number of service packages available at widely varied rates. In Lexington, both the entrant and the incumbent added cable modem to their service offerings.

237. In some cases, the incumbents have resorted to non-market responses. For example, in the City of Lexington and in Davidson County, North Carolina, the incumbent operator filed suit alleging that the entrant illegally moved connected lines and equipment which belong to the incumbent without permission. The incumbent also claimed that the entrant damaged such lines and equipment.

238. A majority of the new entrants discussed above are affiliated with local exchange carriers. This may be the result of the capital intensive nature of the cable television industry. LECs not only have relatively "deep pockets" with which to undertake such capital-intensive investment but they also have a customer base that is already familiar with their telephone and Internet services. From July 1, 1999, through June 30, 2000, the Bureau granted 12 petitions for effective competition, representing more than 150 communities, from entrants affiliated with LECs. Despite the presence of a large number of

[735] *TCI Petition* at 6.

[736] *Id.* at 5.

[737] *Id.* at Exhibit G.

[738] *Id.* at 1 and 2.

[739] *TCI Petition for Revocation of Certification for the City of Laurens, Iowa to Regulate Basic Cable Service and Equipment Rates*, Memorandum Opinion and Order ("*TCI Order*"), 15 FCC Rcd 8803, 8805 ¶ 9 (2000).

LEC-related entrants in the local markets for the distribution of multichannel programming, the future of such competition has become increasingly uncertain following SBC's acquisition of Ameritech, the largest LEC overbuilder.[740] Similarly, other large LEC affiliated overbuilders are also considering selling there overbuild cable systems.[741] The future of head-to-head competition and the extent of competitive benefits to consumers also depends on the successful penetration of DBS in local markets for the distribution of multichannel programming.

V. ADMINISTRATIVE MATTERS

239. This *2000 Report* is issued pursuant to authority contained in sections 4(i), 4(j), 403, and 628(g) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 403, and 548(g).

240. It is ORDERED that the Office of Legislative and Intergovernmental Affairs shall send copies of this *2000 Report* to the appropriate committees and subcommittees of the United States House of Representatives and the United States Senate.

241. It is FURTHER ORDERED that the proceeding in CS Docket No. 00-132 IS TERMINATED.

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas
Secretary

[740] *See* ¶ 122 *supra*.

[741] *Id.*

APPENDIX A

Initial Comments

American Broadband, Inc. ("American Broadband")
AT&T Corp. ("AT&T")
BellSouth Corporation, BellSouth Entertainment, Inc., BellSouth Interactive Media Services, Inc. and BellSouth Wireless Cable, Inc. ("BellSouth")
DirecTV, Inc. ("DirecTV")
Paul Dowgewicz ("Dowgewicz")
EchoStar Satellite Corporation ("EchoStar")
Fox Television Stations, Inc. ("Fox")
National Cable Television Association ("NCTA")
National Rural Telecommunications Cooperative ("NRTC")
RCN Corporation ("RCN")
Satellite Broadcasting and Communications Association ("SBCA")
Wireless Communications Association International, Inc. ("WCA")

Reply Comments

Association of America's Public Television Stations, the Public Broadcasting Service, and the Corporation for Public Broadcasting ("APTS")
AT&T Corp. ("AT&T")
Comcast Corporation ("Comcast")
DirecTV, Inc. ("DirecTV)
National Association of Broadcasters ("NAB")
National Cable Television Association ("NCTA")
Paxson Communications Corporation ("Paxson")
RCN Corporation ("RCN")
State of Hawaii ("Hawaii")
Viacom Inc. ("Viacom")

APPENDIX B

TABLE B-1

Cable Television Industry Growth: 1992 - June 2000 (in millions)

Year	Television Households ("TH")		Homes Passed ("HP")		Basic Cable Subscribers ("Subs")		HHs Passed by Cable (HP/TH)	HHs Subscribing (Subs/TH)	U.S. Penetration (Subs/HP)
	Total	% Change	Total	% Change	Total	% Change			
1992	93.1	1.1%	89.7	1.5%	55.2	3.4%	96.3%	59.3%	61.5%
1993	94.0	1.0%	90.6	1.0%	57.2	3.6%	96.4%	60.9%	63.1%
1994	94.9	1.0%	91.6	1.1%	59.7	4.4%	96.5%	62.9%	65.2%
1995	95.9	1.1%	92.7	1.2%	62.1	4.0%	96.7%	64.8%	67.0%
1996	97.0	1.1%	93.7	1.1%	63.5	2.3%	96.6%	65.5%	67.8%
1997	98.0	1.0%	94.6	1.0%	64.9	2.2%	96.5%	66.2%	68.6%
1998	99.0	1.0%	95.6	1.1%	66.1	1.8%	96.6%	66.8%	69.1%
1999	100.0	1.0%	96.6	1.0%	67.3	1.8%	96.6%	67.3%	69.7%
June 00[(e)]	100.5	0.5%	97.1	0.5%	67.7	0.6%	96.6%	67.4%	69.7%

[(e)] June data based on year-end estimate by Paul Kagan Associates.

Sources:

1992 to 1997: U.S. Television Households: Paul Kagan Assocs., Inc., *Basic Cable Network Economics (1983-2007)*, Cable Program Investor, Mar. 13, 1998, at 2; Homes Passed and Basic Cable Subscribers: Paul Kagan Assocs., Inc., *History of Cable and Pay-TV Subscribers and Revenues*, Cable TV Investor, Apr. 14, 1998, at 3.

1998 to 1999: U.S. Television Households, Homes Passed, and Basic Cable Subscribers: Paul Kagan Assocs., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections (1998-2009*), The Cable TV Financial Databook 1999, Aug. 1999, at 10.

June 2000(e): U.S. Television Households, Homes Passed, and Basic Cable Subscribers: Paul Kagan Assocs., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections (1999-2010*), The Cable TV Financial Databook 2000, Aug. 2000, at 10.

TABLE B-2

Premium Cable Services: 1992 - June 2000
(in millions)

	Premium Cable Service Subscribers[1]		Premium Units[2]	
Year End	Year End Total	% Change	Year End Total	% Change
1992	24.7	2.9%	46.5	7.9%
1993	26.4	6.9%	47.0	1.1%
1994	28.1	6.4%	47.4	0.9%
1995	29.8	6.0%	51.6	8.9%
1996	31.0	4.0%	54.6	5.8%
1997	31.5	1.6%	56.0	2.6%
1998	35.3	12.1%	57.9	3.4%
1999	35.5	0.6%	53.0	-8.5%[3]
June 00[(e)]	35.8	0.8%	52.7	-0.6%

[(e)] June data based on year-end estimate by Paul Kagan Associates.

[1] Premium Cable Services Subscribers refers to the total number of homes subscribing to one or more premium services. Each home is counted once, regardless of the number of premium services to which it subscribes.

[2] Premium Units refers to the total number of premium subscriptions. Each subscription is counted separately, thus may exceed the number of premium subscribers.

[3] The decrease in the number of premium units is due to the migration of certain pay services to other tier categories. As such, the number of units sold by those services are no longer counted here.

Sources:

1992 to 1997: Paul Kagan Assocs., Inc., *History of Cable and Pay-TV Subscribers and Revenues*, Cable TV Investor, Apr. 14, 1998, at 3.

1998 to 1999: Paul Kagan Assocs., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections (1998-2009*), The Cable TV Financial Databook 1999, Aug. 1999, at 10.

2000(e): Paul Kagan Assocs., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections (1999-2010*), The Cable TV Financial Databook 2000, Aug. 2000, at 10.

Table B-3
Channel Capacity by Cable Systems: October 1999 and October 2000

Channel Capacity	1999		2000		99-00
	Number of Systems	Percent of Systems	Number of Systems	Percent of Systems	Percent Change
125+	8	0.08%	14	0.15%	75.0%
91 to 124	71	0.74%	88	0.95%	23.94%
54 to 90	2,085	21.62%	2,145	23.13%	2.88%
30 to 53	6,072	62.96%	5,785	62.37%	-4.72%
20 to 29	833	8.64%	756	8.15%	-9.24%
13 to 19	254	2.63%	219	2.36%	-13.78%
6 to 12	309	3.21%	256	2.76%	-17.15%
5 or less	12	0.12%	12	0.13%	0%
Total	**9,644**	-	**9,275**	-	-
Sys. w/ 54+ channels	2,164	22.44%	2,247	24.23%	7.98%
Sys. w/ 30+ channels	8,236	85.40%	8,032	86.60%	1.41%
Sys. w/ less than 30 channels	1,408	14.60%	1,243	13.40%	-8.22%

All figures exclude systems for which channel capacity information was not provided.

Sources:

1999: Warren Publishing, Inc., *Channel Capacity of Existing Cable Systems*, Television & Cable Factbook: Services Volume No. 68, 2000 Edition, at I-98.

2000: Warren Publishing, Inc., *Channel Capacity of Existing Cable Systems*, (unpublished figures – subject to change).

Table B-4
Channel Capacity by Cable Systems: October 1999 and October 2000

	1999		2000		99-00
Channel Capacity	Number of Subscribers (millions)	Percent of Subscribers	Number of Subscribers (millions)	Percent of Subscribers	Percent Change
125+	0.20	0.31%	0.86	1.39%	330%
91 to 124	2.84	4.44%	3.20	5.15%	12.68%
54 to 90	37.99	59.4%	38.46	61.93%	1.24%
30 to 53	21.99	34.4%	19.00	30.60%	-13.60%
20 to 29	0.74	1.16%	0.48	0.08%	-35.13%
13 to 19	0.07	0.11%	0.04	0.06%	-42.86%
6 to 12	0.08	0.13%	0.06	0.10%	-25.00%
5 or less	0.004	0.01%	0.004	0.01%	0%
Total	**63.91**	**-**	**62.10**	-	-
Sys. W/ 54+ channels	41.03	64.20%	42.52	68.47%	6.65%
Sys. w/ 30+ channels	63.02	98.61%	61.52	99.07%	0.47%
Sys. w/ less than 30 channels	0.89	1.40%	0.58	0.93%	-33.09%

All figures exclude systems for which channel capacity information was not provided.

Sources:

1999: Warren Publishing, Inc., *Channel Capacity of Existing Cable Systems*, Television & Cable Factbook: Services Volume No. 68, 2000 Edition, at I-98.

2000: Warren Publishing, Inc., *Channel Capacity of Existing Cable Systems*, (unpublished figures – subject to change).

TABLE B-5

Growth By Network Type: 1998 - June 1999

	1998		97-98	1999		98-99
Network Type	Number of Networks	Percent of Networks	Percent Change	Number of Networks	Percent of Networks	Percent Change
Basic/No-Chg	139	80.0%	6.1%	147	68.7%	5.8%
Premium	18	10.3%	28.6%	43	20.1%	138.9%
Pay Per View	10	5.7%	66.7%	9	4.2%	-10.0%
Combination*	7	4.0%	-46.2%	15	7.0%	114.3%
Total	174		6.1%	214		23.0%

Note:

* Combination refers to cable networks that fall under more than one service category. For example, the Disney Channel, which is part of the basic tier in some systems, and is sold as a premium service on other systems, is considered a "combination" network.

Source:

1998 to 1999: National Cable Television Association, *National Cable Video Networks By Type of Service: 1980 - 1999*, Cable Television Developments, 1999/2000, at 6.

TABLE B-6

Cable Industry Revenue and Cash Flow: 1996 – 2000

	1996	1997		1998		1999		2000	
	Total	Total	% Change	Total	% Change	Total	% Change	Estimated Year-End Total	% Change
Avg Basic Subscribers (mil)	62.8	64.2	2.2%	65.4	1.9%	66.7	2.0%	67.7	1.5%
Revenue Segments (mil.)									
Basic Service and CPST Tiers	$18,395	$20,008	8.8%	$21,830	9.1%	$23,135	6.0%	$24,445	5.7%
Pay Tiers	$4,955	$4,952	-0.1%	$5,084	2.7%	$4,989	-1.9%	$5,177	3.8%
Local Advertising	$1,662	$1,925	15.8%	$1,850	-3.9%	$2,685	45.1%	$3,128	16.5%
Pay-Per-View	$647	$823	27.2%	$627	-23.8%	$954	52.2%	$1,522	59.5%
Home Shopping	$145	$152	4.8%	$187	23.0%	$185	-1.1%	$202	9.2%
Advanced Svcs (Ana./Dig.)[1]	$91	$208	128.6%	$452	117.3%	$1,978	337.6%	$4,238	114.3%
Equipment and Install	$2,055	$2,320	12.9%	$2,631	13.4%	$2,824	7.3%	$3,029	7.3%
Total Revenue (mil.) (Residential)	$27,950	$30,388	8.7%	$32,661	7.5%	$36,750	12.5%	$41,741	13.6%
Revenue Per Subscriber	$445.06	$473.33	6.4%	$499.40	5.5%	$550.97	10.3%	$616.56	11.9%
Operating Cash Flow (mil.)[2]	$11,972	$13,369	11.7%	$14,602	9.2%	$15,600	6.8%	$17,160	10.0%
Cash Flow per Subscriber	$190.64	$208.24	9.2%	$225.87	8.5%	$233.88	3.5%	$253.47	8.4%
Cash Flow/Total Revenue	42.8%	44.0%	2.8%	45.2%	2.7%	42.4%	-6.2%	41.1%	-3.1%

Notes:

[1] Includes advanced analog, digital video, high-speed data, cable telephony, interactive services, and games.

[2] Cash flow and its proxies (e.g. EBITDA) are often used to value the operations of a communications firm without regard to the firm's capital structure. Cash flow from operations is the net result of cash inflows from operations (revenue) and cash outflows from operations (expenses), thus ignoring non-cash charges to net income such as depreciation and amortization. Cash flow from operations indicates a firm's ability to meet its net finance and investment obligations.

Sources:

1996 to 1997: Average Number of Basic Subscribers: Paul Kagan Assocs., Inc., *History of Cable and Pay-TV Subscribers and Revenues*, Cable TV Investor, Apr. 14, 1998, at 3; Revenue Segments: Paul Kagan Assocs., Inc., *Paul Kagan's 10-YearProjections*, Cable TV Investor, May 20, 1997, at 9; Paul Kagan Assocs., Inc., *Total Cable TV Advertising Revenue (1980-2007)*, Cable TV Financial Databook, Aug. 1998, at 15; Operating Cash Flow: Paul Kagan Assocs., Inc., *Estimated Capital Flows In Cable TV*, Cable TV Finance, May 31, 1998, at 1.

1998 : Average Number of Basic Subscribers and Revenue Segments: Paul Kagan Assocs., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections (1998-2009*), The Cable TV Financial Databook 1999, Aug. 1999, at 10-11; Operating Cash Flow: Paul Kagan Assocs., Inc., *Estimated Capital Flows in Cable TV*, The Cable TV Financial Databook 1999, Aug. 1999, at 149.

1999 to 2000(e): Average Number of Basic Subscribers and Revenue Segments: Paul Kagan Assocs., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections (1999-2010*), The Cable TV Financial Databook 2000, Aug. 2000, at 10; Operating Cash Flow: Paul Kagan Assocs., Inc., *Estimated Capital Flows in Cable TV*, The Cable TV Financial Databook 2000, Aug. 2000, at 150.

TABLE B-7

Acquisition of Capital: 1992 - June 2000
($ in million)

Year	Private Debt		Public Debt [2]		Private Equity		Public Equity		Total Capital Raised [3]
	Sum Raised	% of Total [1]	Sum Raised	% of Total	Sum Raised	% of Total	Sum Raised	% of Total	
1992	$(1,842)	-77.2%	$2,493	104.5%	$1,711	71.7%	$23	1.0%	$2,385
1993	$(3,584)	-186.4%	$5,280	274.6%	$62	3.2%	$165	8.6%	$1,923
1994	$ 4,803	87.0%	$155	2.8%	$100	1.8%	$461	8.4%	$5,519
1995	$(714)	-8.5%	$4,495	53.6%	$1,191	14.2%	$3,419	40.7%	$8,391
1996	$1,287	23.4%	$2,355	42.7%	$49	0.9%	$1,818	33.0%	$5509
1997	$103	1.2%	$6,252	73.3%	$1,942	22.8%	$230	2.7%	$8527
1998	$194	2.3%	$6,174	72.7%	$200	2.4%	$1,927	22.7%	$8495
1999	$(320)	-1.1%	$16,115	55.9%	$5,385	18.7%	$7,648	26.5%	$28,828
June 00	$225	15.8%	$815	57.4%	$0	0.0%	$380	26.8%	$1,420
Total: 1992 through June 00	**$152**		**$44,134**		**$10,640**		**$16,071**		**$70,997**
Avg Raised Per Year	**$18**		**$5,192**		**$1,252**		**$1,891**		**$8,353**

[1]Column entitled "% of total" represents the percent of total capital raised from financing sources for that given year.

[2]Public Debt is expressed in terms of net new public debt.

[3]Total Capital Raised equals private debt plus public debt plus private equity plus public equity.

Sources:

1992: Paul Kagan Assocs., Inc., *Discussion with Elaine Blaisdell Taylor, Research Associate,* Aug. 28, 1998.

1993: Paul Kagan Assocs., Inc., *Estimated Capital Flows in Cable TV*, Cable TV Finance, May 31, 1998, at 1.

1994: Paul Kagan Assocs., Inc., *Estimated Capital Flows in Cable TV*, The Cable TV Financial Databook 1999, Aug. 1999, at 149.

1995 to 1999: Paul Kagan Assocs., Inc., *Estimated Capital Flows in Cable TV*, The Cable TV Financial Databook 2000, Aug. 2000, at 150.

June 2000: Paul Kagan Assocs., Inc., *Cable Financing Snapshot - June*, Cable TV Finance, Sept. 8, 2000, at 10.

TABLE B-8

System Transactions: 1997 - June 2000

	1997	1998	97-98 % Change	1999	98-99 % Change	Jan-June 2000
Number of Systems Sold	109	119	9.2%	90	-24.4%	22
Total Number of Subscribers	10,582,265	22,466,200	112.3%	19,511,206	-13.2%	8,713,975
System Size Average	97,085	188,792	94.5%	216,791	14.8%	396,090
Number of Homes Passed	16,918,571	36,397,730	115.1%	30,285,516	-16.8%	14,294,571
No. of Homes Passed Average	155,216	305,863	97.1%	336,506	10.0%	649,753
Total Dollar Value (mil.)	$21,568	$64,601	199.5%	$75,773	17.3%	$54,545
Dollar Value (mil.) Average	$197.9	$542.9	174.3%	$841.9	55.1%	$2,479.3
Dollar Val. Per Subscriber	$2,038	$2,875	41.1%	$3,884	35.1%	$6,259
Dollar Val. Per Home Passed	$1,275	$1,775	39.2%	$2,502	41.0%	$3,816
Cash Flow Multiple	9.2x	13.1x	42.4%	16.2x	23.7%	20.3x

Sources:

1997 to 1998 - Paul Kagan Assocs., Inc., *Cable System Sale Summary (through December annually)*, Cable TV Investor, Jan. 29, 2000, at 7.

Jan 2000 to June 2000 - Paul Kagan Assocs., Inc., C*able System Sale Summary (through June annually)*, Cable TV Investor, Aug 11, 2000, at 9.

Table B-9

Examples of Cable Modem Deployments as of July 2000

System	Location of Offering	Monthly Rate [1]	Installation Fee [1]	Service Provider[2]	Type of Service
Adelphia	FL, KY, MA, NJ, NY, OH, PA, SC, VA, VT	$29.95-$39.95	$49.95	•Adelphia PowerLink • ISP Channel	• Telco-return • Two-way
AT&T – BIS (includes former MediaOne)	CA, CO, CT, FL, GA, IA, IL, LA, MA, MI, MN , ND, NH, OH, OR, PA, TX, UT, VA, WA	$34.95-$45.00 includes modem rental	$99.95-$150.00	•@Home •Road Runner	• Two-way • Telco-return
Bresnan	MI, MN, WI	$39.95 includes modem rental	N/A	•BresnanLink •@Home	• Two-way
Cablevision Systems	CT, NY	$29.95	$150.00	•@Home	• Two-way
Century	NY	$39.95	N/A	•@Home	• Two-way
Charter	AL, CA, CT, GA, MO, NC, TN,	$29.95-$49.95	$99.00-$175.00	• Charter Pipeline •High Speed Access Corp.	• 500 kbps Svc. • Two-Way • Telco-return
Comcast	AL, CA, DE, FL, GA, IN, KS, MD, MI, MO, NJ, PA, SC, VA	$29.95 –$64.95	$149.00	•@Home • Expressnet	• Two-way
Cox	AZ, CA, CT, FL, KS, LA, MO, MS, NE, NM, NV, OK, RI, TX, VA	$29.95-$44.95	$149.95	•@Home • Internet Venutres • Road Runner • Cox Express • ISP Channel	• Two-way • Telco-return
InterMedia	GA, KY, NC, SC, TN	$29.95 -$39.95	N/A	•@Home	• Two-way
Jones Intercable	VA	$29.95-43.90	N/A	•@Home •Jones	• Two-way • Telco-return
Marcus	TX,WI	$49.95	N/A	•@Home • High Speed Access Corp.	• Two-way
Time Warner	CA, FL, HI, ME, MS, NC, NY, OH, TN, TX	$39.95-$44.95	$100.00	• Road Runner	• Two-way

Notes:
[1] Monthly rate and installation fees vary based on the type of service and hardware received.
[2] As of July 2000, all service providers are exclusive to a particular location.

Sources:
Paul Kagan Assocs., Inc., *Cable Modem Deployments*, The Cable TV Financial Databook 2000, Aug. 2000, at 75-83.

Michael Harris, *Commercial Cable Modem Launches in North America*, Kinetic Strategies, Aug, 2000. *See* http://www.cabledatacomnews.com/cmic/cmic7.html.

APPENDIX C

TABLE C-1

Assessment of Competing Technologies[(i)]

Technology Used	December 96	June 97	June 98	June 99	June 00
(1) TV Households[(ii)]	97,000,000	97,000,000	98,000,000	99,400,000	100,801,720
Percent Change	1.15%	0.00%	1.03%	1.43%	1.41%
(2) MVPD Households[(iii)]	72,370,950	73,646,970	76,634,200	80,882,411	84,423,717
Percent Change	5.67%	1.76%	4.06%	5.54%	4.38%
Percent of Households	74.61%	75.92%	78.20%	81.37%	83.75%
(3) Cable Subscribers	63,500,00	64,150,000	65,400,000	66,690,000	67,700,000
Percent Change	2.25%	1.02%	1.95%	1.97%	1.51%
Percent of MVPD Total	87.74%	87.10%	85.34%	82.45%	80.19%
(4) MMDS Subscribers	1,180,000	1,100,000	1,000,000	821,000	700,000
Percent Change	38.66%	-6.78%	-9.09%	-17.90%	-14.74%
Percent of MVPD Total	1.63%	1.49%	1.30%	1.02%	0.83%
(5) SMATV Subscribers	1,126,000	1,162,500	940,000	1,450,000	1,500,000
Percent Change	17.05%	3.24%	-19.14%	54.26%	3.45%
Percent of MVPD Total	1.56%	1.58%	1.23%	1.79%	1.78%
(6) HSD Subscribers	2,277,760	2,184,470	2,028,200	1,783,411	1,476,717
Percent Change	-3.71%	-4.10%	-7.15%	-12.07%	-17.20%
Percent of MVPD Total	3.15%	2.97%	2.65%	2.20%	1.75%
(7) DBS Subscribers	4,285,000	5,047,000	7,200,000	10,078,000	12,987,000
Percent Change	94.77%	17.78%	42.66%	39.97%	28.86%
Percent of MVPD Total	5.92%	6.85%	9.40%	12.46%	15.38%
(8) OVS Subscribers[(iv)]	2,190	3,000	66,000	60,000	60,000
Percent Change	0.00%	36.99%	2100.00%	-9.09%	0.0%
Percent of MVPD Total	0.00%	0.00%	0.09%	0.07%	0.07%

Notes:

(i) Some numbers have been rounded.

(ii) The year-end 1996 and June 1997 figures are the same because Nielsen's annual update does not take effect until September, the beginning of the new television season.

(iii) The total number of MVPD households is likely to be somewhat less than the given figure since some households subscribe to the services of more than one MVPD. *See 1994 Report*, 9 FCC Rcd at 7480 ¶ 74. However, the number of households subscribing to more than one MVPD is expected to be low. Hence the given total can be seen as a reasonable estimate of the number of MVPD households.

(iv) The decline in OVS subscribers between 1998 and 1999 reflects the conversion of portions of some OVS systems to franchised cable systems over the last year.

Sources:

(1) Television households: 1996 from Nielsen Media Research as cited in *TV Column*, Washington Post, August 26, 1997, at E4; 1998 from Nielsen Media Research as cited in Broadcasting & Cable, June 29, 1998, at 70; 1999 from Nielsen Media Research as cited in Broadcasting & Cable, June 28, 1999, at 26; and 2000 from *Nielsen Media Research.*

(2) Total MVPD households: The sum of the total number of subscribers listed under each of the categories of the various technologies. See note (ii) above.

(3) Cable subscribers: 1996-97 from Paul Kagan Associates, Inc., *Paul Kagan's 10-Year Cable TV Industry Projections,* Cable TV Investor, May 20, 1997, at 9; 1998 from Paul Kagan Associates, Inc., *Paul Kagan's 10-Year Cable TV Industry Projections,* Cable TV Investor, August 10, 1998, at 4; 1999 from Paul Kagan Associates, Inc., *Cable Industry 10-YearProjections,* Cable TV Investor, June 25, 1999, at 6; and 2000 from Paul Kagan Associates, Inc., *Cable Industry 10-YearProjections,* Cable TV Investor, June 19, 2000, at 6.

(4) MMDS subscribers: 1996 from Paul Kagan Associates, Inc., *Wireless Cable Futures,* Wireless Cable Investor, December 31, 1996, at 10-11; 1997 from WCA Comments for the *1997 Report* at 8. The 1998 and 1999 subscribers estimated by the FCC; 2000 from NCTA Comments at 9.

(5) SMATV subscribers: 1996 from *Private Cable Growth,* Private Cable Investor, July 1997, at 3; 1997 subscribers were estimated by the FCC based on data from Paul Kagan Associates, Inc., *Private Cable Growth,* Private Cable Investor, July 1997, at 3; 1998 subscribers from NCTA 1998 Comments at 6; 1999 subscribers from NCTA 1999 Comments at 5; and 2000 subscribers from NCTA Comments at 9.

(6) HSD subscribers: 1996-1997 from *DTH Subscribers,* SkyREPORT, November 1999, at 10; 1998-2000 from SkyReport.com at http://www.skyreport.com/dth_us.htm.

(7) DBS subscribers: 1995 from *DTH Subscribers,* SkyREPORT, January 1997, at 8; 1996-97 from *DTH Subscribers,* SkyREPORT, November 1997, at 10; 1998 from Minal Damani and Jennifer E. Sharpe, *U.S. DBS Marketplace: 1998,* The Strategis Group, July, 1998 at 6; and 1999-2000 from SkyReport.com at http://www.skyreport.com/dth_us.htm.

(8) OVS subscribers: 1996 from Bell Atlantic Comments for *1996 Report* at 5. OVS subscriber count for 1997 through 2000 estimated by the FCC.

TABLE C-2

Number and Subscriber Size of Major Cable System Clusters (Cumulative Figures)

Range of Clustered Subscribers (thousands)	1996		1997		1998		1999	
	Clusters	Subscribers (millions)	Clusters	Subscribers (millions)	Clusters	Subscribers (millions)	Clusters	Subscribers (millions)
100-199	76	10.3	49	6.7	33	4.6	41	5.4
200-299	34	8.3	33	8.2	25	6.3	16	4
300-399	11	3.7	11	3.8	20	6.7	20	6.8
400-499	8	3.6	8	3.7	7	3.2	9	3.9
>500	10	7.7	16	11.9	21	19.6	28	23.8
Total	139	33.6	117	34.3	106	40.4	114	43.9

Sources:

Paul Kagan Associates, Inc., *Major Cable TV Systems/Clusters*, The Cable TV Financial Databook, 1996, at 38-40; 1997, at 39-41; 1998, at 38-42; 1999, at 50-55; and 2000 at 40-42.

TABLE C-3

1999 Concentration in the National Market for Purchase of Video Programming[(1)]

Rank	Company	Percent of Subscribers[(2)]
1	AT&T	19.07
2	Time Warner	14.92
3	DirecTV	10.28
4	Comcast	8.43
Top 4		52.70
5	Charter	7.36
6	Cox	7.27
7	Adelphia	5.94
8	EchoStar	5.11
Top 8		78.38
9	Cablevision	4.29
10	Insight	1.23
Top 10		83.90
Top 25		89.75
Top 50		92.14
	HHI	**954[(3)]**

Notes:

(1) MSO subscriber totals as of June 1999, and reported in Top Cable System Operators as of June 2000, Paul Kagan Associates, Inc., *Cable TV Investor*, October 10, 2000, at 12-13. There is no double counting of subscribers. If a cable operator is partially owned by more than one MSO, its subscribers are assigned to the largest MSO. Subscribers for DirecTV and EchoStar are based on SkyReport.com at http://www.skyreport.com/dth_us.htm.

(2) The total number of MVPD subscribers used to calculate the HHI is 84,423,717 from Table C-1.

(3) The HHI is calculated on the basis of market shares for the top 67 companies. Because all of the remaining MVPDs have very small shares of the market, an HHI calculation that included all cable system operators could only be slightly higher (no more than 2-3 points) than the given HHI.

TABLE C-4

Concentration in the National Market for the Purchase of Video Programming

1997-2000

Market Share	Percent of MVPD Subscribers			
	1997	1998	1999	2000
Top Share	25.54	26.48	20.50	19.07
Top 2	41.51	42.62	36.45	33.99
Top 3	48.46	48.94	45.68	44.27
Top 4	54.30	54.63	53.94	52.70
Top 10	72.26	71.04	74.95	83.90
Top 25	84.96	80.99	84.92	89.75
Top 50	89.92	86.08	89.58	92.14
HHI	1166	1096	923	954

Sources:

Data for 1997 through 1999 were taken from *Reports, 1997-99*. Data for 2000 are from Table C-2.

TABLE C-5

Announced Cable Transactions

July 1999 – June 2000

YEAR	BUYER	SELLER	SYSTEMS	PRICE* (Millions)	SUBS (Actual)	PRICE/ SUB.**	CASH FLOW MULT.
July –1999	Cox	AT&T	Oklahoma, Louisiana, Arkansas, Nevada,	2,094	495,000	4,230	18.1
July –1999	Cox	Multimedia	Topeka, Oklahoma City	2,350	522,000	4,502	15.6
July –1999	Benchmark	King Comm.	King City, NC	8.6	5,800	1,483	10.8
July –1999	TW Fanch one	ARH, Ltd.	Texas, West Virginia	45.7	18,300	2,497	15.2
July-1999	TCA Cable	Cablev./Leander Pflugerville & Williamson Cty.	Leander, Georgetown, Williamson County, Pflaugerville, TX	87.5	23,000	3,806	14.6
July –1999	TCA Cable	Carthage, MO	SW MO Cable TV	28.6	12,300	2,325	13.3
July –1999	Harron	Chain Lakes	Old Forge, et. al., NY	4.3	2,900	1,509	9.1
Aug-1999	MediaOne	Cox	Taunton, et al., MA	145.8	54,000	2,700	14.4
Aug –1999	Cox	MediaOne	Enfield, CT; Westerly, RI; Holland, MA	137.7	51,000	2,700	13.4
Aug-1999	Adelphia	Citizens Cable	Diamond Bar et. al., CA	157.5	45,900	3,431	14.4
Aug- 1999	Galaxy	Cencom Ptnrs.	Northeast MO	2.0	1,600	1,220	7.1
Aug- 1999	Bresnan	Fairmont Cable	Fairmont et. al., MN	10.0	4,400	2,284	14.1
Sept- 1999	Bresnan	Midwest Cable	Bemidji/Case Lake, MN	16.0	7,100	2,269	11.3
Oct- 1999	Classic	Star Cable	PA	127.7	57,000	2,241	10.7
Oct –1999	Cable One	Harmon	West Fargo, ND	14.6	7,700	1,896	9.5
Oct- 1999	American Media Group	Harmon	Nebraska and New Mexico	10.5	7,500	1,400	11.2
Oct-1999	Adelphia	Coaxial	Cincinnati, OH	175.0	53,000	3,302	16.5
Oct- 1999	TCI Cable/NM	White Sands	White Sands, NM	2.0	1,400	1,459	9.3
Nov- 1999	Comcast	AT&T	PA	5,665.9	1,259,100	4,500	19.2
Nov –1999	AT&T	Chambers	Chico, CA; Edmunds, WA; Ontario, OR; Payette, ID	240.0	80,000	3,000	16.9
Dec-1999	Charter	AT&T	St.Louis, MO; Mascoutan, IL; Birmingham, AL; GA	2,408.0	704,000	3,421	15.0
Dec-1999	AT&T	Charter	Ft. Worth, TX; Boston, MA; Clarksville, TN; Santa Cruz, CA; Willimantic, CT	2,300.0	632,000	3,639	15.0
Dec-1999	Adelphia	Cablevision	Cleveland, OH	1,530	306,000	5,000	20.6

YEAR	BUYER	SELLER	SYSTEMS	PRICE* (Millions)	SUBS (Actual)	PRICE/ SUB.**	CASH FLOW MULT.
Dec-1999	RCN	21st Century	Chicago, IL	500.0	37,000	13,730	Not reported
Dec-1999	Cable USA	Julian Cablevision	Julian, CA	1.1	800	1,467	9.3
Dec-1999	Comcast	CalPRES	Various MI/NJ/FL systems	750.0	288,900	2,596	9.2
Dec-1999	USA Media	Pacific Sub Cable	Eastern Washington and Northwest Oregon	8.6	6,000	1,425	7.5
Dec-1999	Time Warner	Hunters Creek	Orange City, FL	10.5	3,400	3,088	14.6
Jan- 2000	America Online	Time Warner	Various systems	50,688.0	7,800,000	6,499	20.5
Jan-2000	Centennial	Pegasus	Mayaguez, PR	170.0	55,500	3,063	13.1
Jan-2000	Metrocast	New England Cablevision	Rochester, NH; Sanford, ME	80.0	25,500	3,137	15.6
Jan-2000	Omega	Bresnan	Various Michigan systems	55.0	26,000	2,115	10.2
Jan-2000	Bresnan	Midwest Video	Rhinelander, et al, WI	27.5	8,400	3,290	16.2
Jan-2000	Galaxy	Cable TV Assoc.	Various South Dakota and Nebraska systems	6.6	6,000	1,100	6.5
Feb-2000	Adelphia	Liberty cable	South Gate et al., CA	30.0	12,700	2,362	20.9
Mar-2000	Sandler Capital	James Cable	Various Michigan systems	142.0	64,100	2,222	12.1
Mar-2000	Charter	Cablevision	Kalamazoo, MI	172.5	49,400	3,491	17.6
Mar-2000	Mediacom	Mid-American	Various Illinois systems	8.0	5,000	1,600	8.8
Apr-2000	AT&T	Cablevision	Boston, MA	1,789.6	357,900	5,001	22.9
Apr-2000	Cablevision	AT&T	Westchester et al., NY	627.6	125,500	5,001	22.9
Apr-2000	Mallard Cablevision	Blackstone Cable	Various systems in Montana, Georgia, Wyoming, Idaho, Washington, Utah, Oregon, and California	54.0	41,800	1,292	8.5
Apr-2000	Mediacom	Rapid Comm.	Various Kentucky and Illinois systems	8.0	6,000	1,333	8.5
Apr-2000	Mallard Cablevision	B&L Cable Comm	Various Florida, Utah, and Alabama systems	5.4	4,900	1,092	9.0
Apr-2000	Mallard Cablevision	Alltech Cable TV/Hurst Cable	West Central US	2.8	2,600	1,070	8.2
Apr-2000	Mediacom	Tri-Cable	Montgomery, et al., MN	1.8	1,300	1,385	8.9
Apr-2000	Mallard Cablevision	High Mountain Comm	Systems in ten Montana cities	2.3	1,800	1,260	8.9
May-2000	Cox Classic Cable	Rapid Comm	Branson et al., MO	30.0	12,000		Not reported
May-2000	Mallard Cablevision	Plentywood Cable	Plentywood, MT	.8	700	1,155	7.9
May-2000	Mallard Cablevision	Baker Cable	Baker, MT	.8	700	1,166	7.9
Jun-2000	Adelphia	CATV/ Kennebunksport	Kennebunksport et al., ME	35.0	9,500	3,684	17.0

YEAR	BUYER	SELLER	SYSTEMS	PRICE* (Millions)	SUBS (Actual)	PRICE/ SUB.**	CASH FLOW MULT.
Jun-2000	Adelphia	GS Comm	Frederick, MD; Culpepper County, VA; Inwood, WV; Adams County, PA	661.7	122,700	5,394	14.8
			Grand Total	$73,431.5	$13,427,100		

Notes:

* The transaction prices are from Paul Kagan Assocs. The transaction price is dependent upon the terms of each transaction and may or may not include debt.

** The calculation of Price/Basic Subscriber are from Paul Kagan Assocs. These calculations are subject to rounding and reporting inconsistencies.

Source:

Kagan Assocs., Inc., *Announced/Proposed Cable System Sales,* Cable TV Investor, July 26, 1999 at 9; Aug Paul. 20, 1999, at 8; Sept. 10, 1999, at 6; Nov. 24, 1999, at 8; Dec. 23, 1999, at 8; Jan. 29, 2000, at 7; March 24, 2000, at 6; Apr. 30, 2000, at 8; June 19, 2000, at 8; Aug. 11, 2000, at 9; and Oct. 10, 2000, at 8.

APPENDIX D

TABLE D-1

MSO Ownership in National Video Programming Services

Programming Service	Launch Date	MSO Ownership (%)
American Movie Classics (AMC)	Oct-84	Cablevision (75)
Animal Planet	Oct-96	AT&T (39.2), Cox (19.7)
BET (Black Entertainment Television)	Jan-80	AT&T (35)
BET Action Pay-Per-View	Sept-90	AT&T (35)
BET Gospel	Nov-98	AT&T (35)
BET Movies	Feb-97	AT&T (35)
BET on Jazz	Jan-96	AT&T (35)
Bravo	Feb-80	Cablevision (75)
Canales ñ (6 digital channels)	Oct-98	AT&T (100)
Cartoon Network	Oct-92	Time Warner (100)
Cinemax	Aug-80	Time Warner (100)
CNN	Jun-80	Time Warner (100)
CNN Headline News	Jan-82	Time Warner (100)
CNN International	Jan-95	Time Warner (100)
CNN/SI	Dec-96	Time Warner (100)
CNNfn (The Financial Network)	Dec-95	Time Warner (100)
Comedy Central	Apr-91	Time Warner (50)
Court TV	Jul-91	AT&T (50), Time Warner (50)
Discovery Channel	Jun-85	AT&T (49), Cox (24.6)
Discovery Civilization	Oct-96	AT&T (49), Cox (24.6)
Discovery En Espanol	Aug-98	AT&T (49), Cox (24.6)
Discovery Health	Jul-98	AT&T (49), Cox (24.6)
Discovery Home & Leisure	Oct-96	AT&T (49), Cox (24.6)
Discovery Kids	Oct-96	AT&T (49), Cox (24.6)
Discovery People	Dec-98	AT&T (49), Cox (24.6)

Programming Service	Launch Date	MSO Ownership (%)
Discovery Science	Oct-96	AT&T (49), Cox (24.6)
Discovery Wings	Jul-98	AT&T (49), Cox (24.6)
E! Entertainment	Jun-90	Comcast (40), AT&T (20)
Encore	Apr-91	AT&T (100)
Encore Action	Sept-94	AT&T (100)
Encore Love Stories	Jul-94	AT&T (100)
Encore Mysteries	Jul-94	AT&T (100)
Encore True Stories and Drama	Sept-94	AT&T (100)
Encore WAM! America's Youth Network	Sept-94	AT&T (100)
Encore Westerns	Jul-94	AT&T (100)
Food Network	Nov-93	AT&T(5.5), Cox (1), TimeWarner(1)
FOX Sports Net (5 channels)	various	Cablevision (50)
GEMS International Television	Apr-93	Cox (50)
Golf Channel	Jan-95	AT&T (14.4), Comcast (43.3)
Great American Country	Dec-95	Comcast (100)
HBO (Home Box Office)	Nov-72	Time Warner (100)
HBO Plus	Dec-75	Time Warner (100)
HBO Signature	Oct-93	Time Warner (100)
HBO Comedy	May-99	Time Warner (100)
HBO Family	Dec-96	Time Warner (100)
HBO Zone	May-99	Time Warner (100)
Home Shopping (Spree!)	Sep-86	AT&T (19.7)
Home Shopping Network	Jul-85	AT&T (19.7)
Independent Film Channel	Sep-94	Cablevision (75)
International Channel	Jul-90	AT&T (90)
Kaleidoscope	Sep-90	AT&T (12)
Knowledge TV	Nov-87	Comcast (97)
MoreMAX	Aug-91	Time Warner (100)
MuchMusic USA	Jul-94	Cablevision (75)

Programming Service	Launch Date	MSO Ownership (%)
Multimax: ActionMax	June-98	Time Warner (100)
Multimax: ThrillerMax	June-98	Time Warner (100)
Odyssey Channel	Oct-93	AT&T (32.5)
Outdoor Life Network	Jul-95	Cox (33.3), Comcast (17), AT&T (15.4)
Ovation: The Arts Network	Apr-96	Time Warner (4.2)
PIN (Product Information Network)	Apr-94	Cox (45)
Prevue Channel	Jan-88	AT&T (51)
QVC	Nov-86	Comcast (57), AT&T (43)
Sci-Fi Channel	Sept-92	AT&T (19.7)
Sneak Prevue	May-91	AT&T (12)
Speedvision	Dec-95	Cox (33.3), Comcast (15), AT&T (13.3)
Starz!	Feb-94	AT&T (100)
Starz! Cinema	May-99	AT&T (100)
Starz! Family	May-99	AT&T (100)
Starz!2	Mar-96	AT&T (100)
Style	May-99	Comcast (40), AT&T (20)
TBS	Dec-76	Time Warner (100)
Telemundo	Jan-87	AT&T (50)
The Box Worldwide	Dec-85	AT&T (78)
TLC (The Learning Channel)	Nov-80	AT&T (49), Cox (24.6)
TNT (Turner Network Television)	Oct-88	Time Warner (100)
Travel Channel	Feb-87	AT&T (49), Cox (24.6)
Turner Classic Movies	Apr-94	Time Warner (100)
USA Network	Apr-80	AT&T (19,7)
Viewers Choice 1-10 and Hot Choice (11 multiplexed channels)	Nov-85	Cox (20), Time Warner (17), AT&T (11.7), Comcast (11)
Women's Entertainment (formerly Romance Classics)	Jan-97	Cablevision (75)

Notes:

The sale of BET and its programming channels to Viacom is pending. The sale is expected to be completed early next year. *Communications Daily,* November 6, 2000, at 2.

AT&T has a 28% equity interest (6.9% voting) in Cablevision Systems and a 25.5% ownership interest in TWE.

Canales ñ, AT&T Liberty's digital package of Spanish-language channels, consists of FoxSportsAmericas, CBS Telenoticias, CineLatino, BoxTejano, BoxExitos, and Canal 9.

Sources:

National Cable Television Association, *Directory of Cable Networks*, Cable Television Developments, Spring/ Summer 2000 at 32 through 135.

*Kim McAvoy, AOL TW Has Lock on the Top***,** Broadcasting and Cable, August 28, 2000 at 32.

BET Web site, http://www.bet.com.

Letter from Mark Hollinger, Executive Vice President and General Counsel, Discovery Communications Inc., to Marcia Glauberman, FCC Staff, February 3, 2000.

Leslie Cauley and Sally Beatty**,** *Cable Channel Oxygen Looks for Investors,* The Wall Street Journal, October 20, 2000.

Comcast Web site, http://www.comcast.com/companies/default.asp.

Cox Web site, http;//www.cox.com/corporate/factsheet.asp.

TABLE D-2

National Video Programming Services
Not Affiliated With a Cable Operator

Programming Service	Launch Date
A&E (Arts & Entertainment)	Feb-84
Adultvision	Jul-95
All News Channel	Nov-89
America's Voice	Dec-93
ANA Television Network	Dec-91
Asian American Satellite TV	Jan-92
BBC America	Mar-98
Biography Channel	Dec-98
Bloomberg Information Television	Jan-95
B-Movie Channel	May-98
BoyzChannel	Oct-99
Cable Video Store	Apr-86
Canal de Noticias NBC	Mar-93
Canal Sur	Aug-91
CBS TeleNoticias	1997
CelticVision	Mar-95
Channel America Television Network	Jun-88
Channel Earth	Mar-97
Children's Cable Network	May-95
Cine Latino	Dec-94
Classic Arts Showcase	May-94
Classic Movie Channel	Nov-99
CMT (Country Music Television)	Mar-83
CNBC	Apr-89
CNET: The Computer Network	Jan-95
Consumer Resource Network	Dec-94
Crime Channel	Jul-93

Programming Service	Launch Date
C-SPAN	Mar-79
C-SPAN2	Jun-86
Deep Dish TV	Jan-86
Disney Channel	Apr-83
Do-It-Yourself Channel	Sep-99
Dream TV Network	Nov-96
Ecology Channel	Nov-94
Employment Channel	Feb-92
ESPN	Sep-79
ESPN Classic Sports (formerly Classic Sports Network)	May-95
ESPN2	Oct-93
ESPNEWS	Nov-96
Ethnic-American Broadcasting Co.	1992
EWTN: Global Catholic Network	Aug-81
Fashion Network	Jul-96
Fifth Avenue	Mar-00
Filipino Channel	Apr-91
Flix	Aug-92
Fox Family Worldwide	Apr-77
Fox News Channel	Oct-96
Fox Sports Americas	Dec-93
Fox Sports Direct	1989
Fox Sports World	1997
FX	Oct-94
FXM: Movies from Fox	Oct-94
Galavision	Oct-79
Game Show Network	Dec-94
Games and Sports	Mar-99
Gay Entertainment Television	Nov 95
GirlzChannel	Oct-99
Goodlife Television Network (formerly Nostalgia Channel)	Jun-98

Programming Service	Launch Date
History Channel	Jan-95
History Channel International	Dec-98
Home & Garden Television	Dec-94
HTV	Aug-95
Inspirational Network	Apr-78
International Channel Network (7 channels)	Various
Jewish Television Network	1981
Ladbroke Racing Channel	Nov-84
Las Vegas Television Network	Nov-91
Lifetime Movie Network	Jun-98
Lifetime Television	Feb-84
Lottery Channel	Nov-95
M2: Music Television	Aug-96
MBC Gospel Network	Nov-98
Military Channel	Jul-98
Mor Music TV	Aug-92
MSNBC	Jul-96
MTV “S”	Aug-98
MTV “X”	Aug-98
MTV Networks Latin America (formerly MTV Latino)	Oct-93
MTV: Music Television	Aug-81
Music Zone	Apr-95
My Pet TV	Sep-96
NASA Television	Jul-91
National & International Singles Television Network	Apr-95
NBA.comTV	Jan-99
NET - Political NewsTalk Network	Dec-93
Network One	Dec-93
Newsworld International	Sep-94
Nick at Nite's TV Land	Apr-96

Programming Service	Launch Date
Nick Too	Jan-99
Nickelodeon/Nick at Nite	Apr-79
Noggin	Feb-99
Oasis TV	Sept-97
Outdoor Channel	Apr-93
Oxygen	Feb-00
Planet Central Television	May-95
Playboy TV	Nov-82
Pleasure Channel	Jun-99
Praise Television	Dec-96
Recovery Network	Feb-97
SCOLA	Aug-87
Shop at Home	Jun-86
Showtime	Jul-76
Showtime Beyond	Sep-99
Showtime Extreme	1998
SingleVision	Jun-94
SiTV	Aug-00
Soap Channel	Jul-98
Spice	May-89
Spice Hot	1998
Student Film Network	Nov-94
Sun TV	Aug-96
Sundance Channel	Feb-96
Telemundo	Jan-87
The Erotic Network (TEN)	Aug-98
The Health Network	May-99
TMC (The Movie Channel)	Dec-79
TNN: The National Network (formerly The Nashville Network)	Mar-83
Toon Disney	Apr-98
Total Communications Network	Nov-95
Trinity Broadcasting Network	Apr-78
TRIO	Sep-94

Programming Service	Launch Date
Tropical Television Network	Aug-96
TV 5 - La Television Internationale	Jan-98
TV Asia	Apr-93
TV Games Network	unknown
TV Japan	Jul-91
TVN Digital Cable (32 digital pay-per-view channels)	Feb-98
U Network	Oct-89
Univision	Sep-76
ValueVision	Oct-91
VH-1	Jan-85
VH1 Smooth	Aug-98
VH1 Soul	Aug-98
VHI Country	Aug-98
Via TV Network	Aug-93
Video Catalog Channel	Oct-91
Weather Channel	May-82
Weatherscan	April-98
Weatherscan Local	May-99
Weatherscan Plus	Sep-99
Weatherscan Radar	Jun-99
WorldJazz	Jul-95
Worship Network	Sep-92
Z Music	Mar-93
ZDTV: Your Computer Channel	May-98

Notes:
Cable affiliates provide 95% of funding for C-SPAN and C-SPAN2, but have no ownership or program control interests. DBS licensees provide the other 5% of funding and also have no ownership or program control interests.

Sources:
National Cable Television Association, *Directory of Cable Networks*, Cable Television Developments Spring/Summer 2000 at 32 through 135.

Leslie Cauley and Sally Beatty**,** *Cable Channel Oxygen Looks for Investors***,** The Wall Street Journal, October 20, 2000 at 25.

Fifth Avenue Corporation**,** *5th Avenue Channel Corp. Launches TV Channel***,** Press Release, March 6, 2000.

SiTV Web site, http:/www.sitv.com.

USA Networks Web site, http://www.usanetworks.com/companies/usa.network.html.

News Corporation Web site, http://www.newscorp.com/body/html.

TABLE D-3

Regional Video Programming Services

Programming Services	Launch Date	MSO Ownership (%)
Arabic Channel	Apr-91	
Arizona News Channel	Nov-96	
Automotive Television Network (ATN)	Sep-95	
Bay News 9	Jul-94	AT&T (49)
BAYTV	Jul-94	AT&T (49)
Cable TV Network of New Jersey	Jul-93	
California Channel	Feb-91	
Casa Club TV	Jul-97	
Central Florida News 13	Oct-97	
ChicagoLand Television News (CLTV)	Jan-93	
CN8 - The Comcast Network	1996	Comcast (100)
Comcast SportsNet	Oct-97	Comcast (46)
County Television Network San Diego	Jul-96	
Ecumenical Television Channel	1983	
Empire Sports Network	Dec-90	
Florida's News Channel	Sep-98	
Fox Sports Arizona	Sep-96	
Fox Sports Bay Area	Apr-90	
Fox Sports Chicago	Jan-84	Cablevision (45)
Fox Sports Cincinnati	1989	Cablevision (45)
Fox Sports Detroit	Sep-97	
Fox Sports Intermountain West	1990	
Fox Sports Midwest	1989	
Fox Sports New England	Nov-81	Cablevision (22.5), AT&T (50)
Fox Sports New York	1982	Cablevision (41.5)
Fox Sports Northwest	Nov-88	
Fox Sports Ohio	Feb-89	Cablevision (45)
Fox Sports Pacific	Unknown	Cablevision (45)

Programming Services	Launch Date	MSO Ownership (%)
Fox Sports Pittsburgh	Apr-86	
Fox Sports Rocky Mountain	Nov-88	
Fox Sports South	Aug-90	
Fox Sports Southwest	Jan-83	
Fox Sports West	Oct-85	
Fox Sports West 2	Jan-97	
Hip Hop Network	Jan-97	
Home Team Sports (HTS)	Apr-84	AT&T (17)
International Television Broadcasting (ITV)	Apr-86	
Las Vegas One News	Apr-98	
Local News on Cable	Feb-97	
Madison Square Garden Network (MSG)	Oct-69	AT&T (18), Cablevision (41.5)
MediaOne News	Dec-95	AT&T (100)
Midwest Sports Channel	Mar-89	
MSG Metro Guide	Aug-98	Cablevision (100)
MSG Metro Learning Channel	Aug-98	Cablevision (100)
MSG Traffic and Weather	Aug-98	Cablevision (100)
Neighborhood News L.I.	Unknown	Cablevision (75)
New England Cable News	Mar-92	AT&T (50)
New England Sports Network (NESN)	Mar-84	
New York 1 News	Sep-92	
News 12 Connecticut	Jun-95	Cablevision (75)
News 12 Long Island	Dec-86	Cablevision (75)
News 12 New Jersey	Mar-96	Cablevision (75)
News 12 The Bronx	Jun-98	Cablevision
News 12 Westchester	Nov-95	Cablevision (75)
News 8 Austin	Sep-99	
News Channel 5+	Sept-96	
News Now 53	Jun-97	
News on One	Oct-97	

Programming Services	Launch Date	MSO Ownership (%)
News Watch 15	Oct-99	
Newschannel 8	Oct-91	
Nippon Golden Network	Jan-82	
NorthWest Cable News	Dec-95	
Ohio News Network	May-97	
Orange County NewsChannel	Sep-90	
PASS Sports (Pro-Am Sports System)	Apr-84	
Pennsylvania Cable Network (PCN)	Sep-79	
Pittsburgh Cable News Channel (PCNC)	Jan-94	
PRISM	Sep-76	
San Diego's News Channel 15	Jan-97	
Six News Now	Jul-95	
South Florida News Channel	1998	
SportsChannel Florida	Dec-87	AT&T (6), Cablevision (13.5)
SportsChannel New York	1976	
Sunshine Network	Mar-88	AT&T (34.5), Comcast (16), Cox (5.3)
Texas Cable News	Jan-99	

Sources:
National Cable Television Association, *Regional Video Services*, Cable Television Developments, Spring/Summer 2000, at 136 through 168.

Rainbow Media Holdings Web site, http://www.cablevision.com/cvhome/cvrainb/rainbow.htm.

Fox Web site, http://foxsports.com/direct/index.sml.

TABLE D-4

Planned Programming Services

Programming Service	Planned Launch Date, If Announced
American Legal Network	TBA
American West Network	TBA
Anti-Aging Network	TBA
Applause	TBA
Arts & Antiques Network	TBA
Auto Channel	TBA
Baby TV	TBA
Beauty Channel	4th Qtr 2000
BET Rap/Hip Hop	TBA
BET World Music Beat	TBA
Black Women's Television	2000
Boating Channel	TBA
Booknet	2000
Bravo World Cinema	TBA
Children's Fashion Network	2000
Chop TV	TBA
Collectors Channel	TBA
ComedyNet	Jan 2001
Crime Beat	2001
Documentary Channel	1st Qtr 2001
Eurocinema	TBA
Fad TV (Fashion & Design Television)	3rd Qtr 2001
Fanfare (The Classical Music Channel)	TBA
Fashion Network	TBA
GETv Network	TBA
Global Village Network	TBA
Hobby Craft Interactive	TBA

Programming Service	Planned Launch Date, If Announced
Inspirational Network Digital Digiplex (6 channels)	2000
Investment TV	TBA
Local News Network	TBA
Love Network	TBA
Martial Arts Action Network	TBA
Museum Channel	TBA
Museum World	TBA
National Geographic Channel	Jan-2001
Native American Nations Program Network	2001
Noah's World International	2001
Opportunity Television Network	TBA
Orb TV	TBA
Parents Television	TBA
Performance Showcase	TBA
Planet Central Television	TBA
Premiere Horse Network	TBA
Puppy Channel	2001
RadioTV Network	3rd Qtr 2001
Real Estate Network (TREN)	TBA
Seminar TV Network (Seminar TV)	1st Qtr 2001
Senior Citizens Television Network	1st Qtr 2001
Showtime FamilyZone	1st Qtr 2001
Showtime Next	1st Qtr 2001
Showtime Women	1st Qtr 2001
Skywatcher Channel	TBA
Spanish Shopping Channel	TBA
TBD (Gen – Y emphasis)	2000
Starz Comedy	2002
Starz Kids	2002
The Catalogue Channel	TBA
The CEO Channel	TBA

Programming Service	Planned Launch Date, If Announced
The Enrichment Channel	TBA
The Football Channel (TFN)	TBA
The Gospel Network	TBA
The Recovery Network	TBA
The World Cinema Channel	TBA
Theater Channel	TBA
Weatherscan Espanol	TBA
Youth Sports Broadcasting Channel	TBA

Sources:

National Cable Television Association, *Planned Services*, Cable Television Developments, Spring/Summer 2000 at 169 through 186.

The Martial Arts Network Web site, http://www. Martia-arts-network.com/inves._pg.htm.

TABLE D-5

MSO Ownership in National Programming

Services	Subs.[(Mil.)]	AT&T	Time Warner	Media One	Comcast	Cox	Cablevision Systems	Jones[(1)]
AMC	71.9						75%	
Animal Planet	54	39.2%				19.7%		
BET	58.5	35%						
BET Action PPV	10	35%						
BET Gospel	*	35%						
BET Movies	6.2	35%						
BET on Jazz	5	35%						
Bravo	50.1						75%	
Canales ñ	*	100%						
Cartoon Network	60		100%					
Cinemax[(2)]			100%					
CNN	77		100%					
CNN Headline News	72.4		100%					
CNN Int'l	10		100%					
CNN/SI	15.4		100%					
CNNfn	11.7		100%					
Comedy Central	62		50%					
Court TV	44.7	50%	50%					
Discovery	77.8	49%				24.6%		
Discovery Civilization	*	49%				24.6%		
Discovery En Espanol	*	49%				24.6%		
Discovery Health	*	49%				24.6%		

Services	Subs. (Mil.)	AT&T	Time Warner	Media One	Comcast	Cox	Cablevision Systems	Jones[1]
Discovery Home&Leisure	*	49%				24.6%		
Discovery Kids	*	49%				24.6%		
Discovery People	11	49%				24.6%		
Discovery Science	*	49%				24.6%		
Discovery Wings	*	49%				24.6%		
E!	60	20%			40%			
Encore	13.1	100%						
Encore Action	*	100%						
Encore Love Stories	*	100%						
Encore Mysteries	*	100%						
Encore True Stories/Drama	*	100%						
Encore WAM!	*	100%						
Encore Westerns	*	100%						
Food Network	39.7	5.5%	1%			1%		
Fox Sports Net	68						50% *5	
GEMS Intn'l TV	5.5					50%		
Golf Channel	26.2	14.4%			43.3%			
Great American Country	12				100%			
HBO	35.7		100%					
HBO Plus			100%					
HBO Signature			100%					
HBO Comedy			100%					
HBO Family			100%					
HBO Zone			100%					
Spree!	*	19.7%						
HSN	52.6	19.7%						
Independent Film Channel	14						75%	
Int'l Channel	8.7	90%						
Kaleidoscpe	*	12%						

Services	Subs. (Mil.)	AT&T	Time Warner	Media One	Comcast	Cox	Cablevision Systems	Jones[1]
Knowledge TV	20				97%			
More Max			100%					
MuchMusic USA	19.1						75%	
Multimax:Action			100%					
Multimax:Thril			100%					
Odyssey	28.3	32.5%						
Outdoor Life	13.5	15.4%			17%	33.3%		
Ovation	7		4.2%					
PIN	23.4					45%		
Prevue Channel	*	51%						
QVC	65.4	43%			57%			
WE (formerly Romance Classics)	24.7						75%	
Sci-Fi	46.9	19.7%						
Sneak Prevue	34	12%						
Speedvision	28	13.3%			15%	33.3%		
Starz!	9.7	100%						
Starz! Cinema	3.3	100%						
Starz! Family	3	100%						
Starz!2	3	100%						
Style	6	20%			40%			
TBS	78.6		100%					
Telemundo	17.6	50%						
The Box	24.5	78%						
TLC	72	49%				24.6%		
TNT	77.1		100%					
Travel Channel	31.5	49%				24.6%		
TCM	40.2		100%					
USA	77.2	19.7%						
Viewers Choice 1-10	*	11.7%	17%		11%	20%		

Notes:

In addition to cable, other services such as MMDS (wireless cable), SMATV (satellite master antenna television),satellite, including HSD (home satellite dish) and DBS (direct broadcast satellite), broadcast television and LPTV\(low power television) may distribute these signals. Subscriber figures may include these non-cable services.

*Indicates that subscribership count is unknown or not available.

In April 1999, Glenn Jones, founder of Jones International, sold controlling interest in cable MSO, Jones Intercable,to Comcast Cable Communications. *See Comcast Announces Filing of Registration Statement Relating to Partial Exchange Offer for Jones Intercable, Inc*. (press release) August 23, 1999. *See also* Frank Witsil, *Augusta, Ga.-Based Cable Firm to Adopt Comcast Name*, The Augusta Chronicle, September 29, 1999.

CNN International subscribership of 12.5 million includes domestic US subscribers only. CNN international has 129 million subscribers outside the U.S.

HBO subscriber numbers include HBO Plus, HBO Signature, HBO Comedy, HBO Family, HBO Zone, and Cinemax , MoreMax, ActionMax, and Thriller Max.

Sources:

National Cable Television Association, *Directory of Cable Networks*, Cable Television Developments, Spring/Summer 2000 at 31 through 158.

Cablevision Online: *Database, Network Subscriber Counts*, http://www.cablevisionmag.com/database.

TABLE D-6

Top 20 Programming Services by Subscribership

Rank	Programming Network (Top 20)	Number of Subscribers (Millions)	MSO Ownership Interest in Network (%)
1	TBS	78.0	Time Warner (100)
2	Discovery Channel	77.4	AT&T (49), Cox (24.6)
3	USA Network	77.2	AT&T (18.6)
4	ESPN	77.1	
5	C-SPAN	77.0	
6	CNN	77.0	Time Warner (100)
7	TNT	76.8	Time Warner (100)
8	Nickelodeon/Nick at Nite	76.0	
9	Fox Family Channel	75.7	
10	TNN	75.0	
11	Lifetime Television	75.0	
12	A&E	75.0	
13	Weather Channel	74.0	
14	MTV	73.2	
15	CNN Headline News	72.4	Time Warner
16	QVC	72.2	Comcast (57), AT&T (43)
17	TLC	72.0	AT&T (49), Cox (24.6)
18	AMC	71.0	Cablevision (75)
19	CNBC	71.0	
20	VH1	68.3	

Notes:
In addition to cable, other services such as MMDS (wireless cable), SMATV (satellite master antenna television), satellite, including HSD (home satellite dish) and DBS (direct broadcast satellite), broadcast television and LPTV (low power television) may distribute these signals. Subscriber figures may include these noncable services. Cable affiliates provide 95% of funding for C-SPAN and C-SPAN2, but have no ownership or program control interests. DBS licensees provide the other 5% of funding and also have no ownership or program control interests.

Source:
National Cable Television Association, Top 20 Cable Networks, Cable Television Developments, Spring/Summer 2000 at 20, 21.

TABLE D-7

Top 15 Programming Services by Prime Time Rating

Rank	Programming Service	MSO with Ownership Interest (%)
1	USA Network	AT&T (19.7)
2	TBS	Time Warner (100)
3	TNT	Time Warner (100)
4	Nick at Night	
5	Cartoon Network	Time Warner (100)
6	Lifetime Television	
7	A&E	
8	MTV	
9	History Channel	
10	TLC (The Learning Channel)	AT&T (49), Cox (24.6)
11	Sci Fi Channel	AT&T (19.7)
12	FX	
13	TV Land	
14	HGTV	
15	Fox Family	
16	Comedy Central	Time Warner (50)
17	Court TV	AT&T (50), Time Warner (50)
18	CNN	Time Warner (100)
19	E!	Comcast (40), AT&T (20)
20	APL	AT&T (39.2), Cox (19.7)

Source:
Paul Kagan Assocs., Inc., *Day Part Ratings Averages, Prime Time (2nd Quarter)*, Cable Program Investor, Aug. 10, 2000, at 6.

Dissenting Statement of Commissioner Harold Furchtgott-Roth

Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, CS Docket No. 00-132

I must respectfully dissent from the 2000 "Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming." As I have previously made clear, I do not believe that the Competition Report, in its traditional form, fulfills our duties under the Communications Act. *See generally* Dissenting Statement of Commissioner Harold Furchtgott-Roth, Annual Assessment of Competition in Markets for the Delivery of Video Programming, 15 FCC Rcd. 978 (2000); Dissenting Statement of Commissioner Harold Furchtgott-Roth, Annual Assessment of Competition in Markets for the Delivery of Video Programming, 13 FCC Rcd 24284 (1998).

In particular, instead of examining the state of competition "in the market for the delivery of video programming," 47 USC section 628(g), the Report artificially limits its analysis to the delivery of "multichannel video programming." Furthermore, the plain language of section 628(g) suggests that the business of delivering video programming constitutes a single "market," *see id*. section 628(g) (referring to "the market" for video programming delivery), not a conglomeration of analytically discrete markets, as this report presumes.[1] Because I believe the definition of the relevant market to be in error, I cannot sign on the ensuing analysis of that market.

[1] I note that, while I am gratified that the Commission has responded to my prior statements on this issue by changing the title of the report to refer to a unitary “market,” the underlying analytical approach of the report has not changed.