PUBLIC VERSION

LOCAL COMPETITION IN VIRGINIA

INTRODUCTION AND SUMMARY

1. This Report describes the state of local telephone competition in Virginia.[1] It is based on a combination of public sources (*e.g.*, trade press, industry reports, company Web sites) and information that Verizon maintains in internal databases. Although these are the best available sources, they do not necessarily portray the full extent to which competing local carriers are serving customers or have the ability to do so. Accordingly, competing carriers in Virginia may be providing local service on an even more widespread basis than this Report indicates.

2. This Report demonstrates that competitors in Virginia are providing service to both residential and business customers across the Commonwealth using each of the three paths of competitive entry contemplated by the Telecommunications Act of 1996: facilities-based service, unbundled network elements, and resale. *See* Table 1.

3. Verizon serves approximately 3.5 million switched access lines in Virginia.[2] By comparison, competing carriers in Virginia serve at least 673,000 lines, or at least 16 percent of the lines in this market.

4. *CLECs are using all three modes of competitive entry*. According to Verizon's internal data – in particular, the number of E911 subscriber listings for competitors – CLECs are serving approximately 571,000 lines either wholly or partially over their facilities they deployed themselves, including in all cases their own local switches.[3] This figures includes approximately 134,000 lines that competitors in Virginia are serving using unbundled analog loops from Verizon and their own switches; the remainder appear to be served wholly over their own facilities. Verizon's data also show that CLECs in Virginia are serving approximately 8,200 lines through unbundled network element platforms, and approximately 94,100 lines through resale.[4]

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[1] References to "Virginia" mean "Verizon's territory in Virginia formerly served by Bell Atlantic." References to "Verizon" mean "the former Bell Atlantic."

[2] This does not include resale lines, UNE platforms sold to CLECs, and Verizon official lines.

[3] Unless otherwise specified, competitive "lines" refers to voice-grade lines used to provide dialtone service to a single telephone number. In the substantial majority of cases where a competitor has an E911 listing for a customer, it serves that customer entirely over its own facilities. In all cases, the competitor is using at least its own switch to serve that customer, rather than a UNE platform or resale. Each E911 subscriber listing represents at least one customer access line, but may represent more than a single line. In the case of business customers, for example, a single E911 listing may represent many individual lines. In addition, there are no E911 listings for competitors' DSL lines that are used exclusively to provide data services. The total number of E911 listings that competitors have obtained therefore understates the number of facilities-based lines that competitors serve.

[4] Resale data throughout this Report do not include lines resold to Verizon Avenue.

5. *CLECs are serving both residential and business customers*. According to Verizon's internal data, competing carriers in Virginia are providing service to approximately 211,000 residential lines – approximately 176,000 lines provided either wholly or partially over facilities they have deployed themselves, approximately 5,800 lines provided through UNE platforms, and approximately 29,600 lines provided through resale. Virginia competitors also are providing service to approximately 462,000 business lines. Based on the number of E911 listings they have obtained, it is clear that competitors in Virginia serve a minimum of 395,000 business lines either wholly or partially over facilities they have deployed themselves, including in all cases their own local switches. Competitors are serving an additional 2,400 business lines using UNE platforms and are reselling another 64,500 business lines. *See* Table 1.

Table 1. Summary of Competitive Data in Virginia as of December 2001

	Residential	**Business**	**Total**
Facilities-Based Lines* (utilizing CLEC switches)	176,000	395,000	571,000
Facilities-Based Lines (utilizing UNE Platform)	5,800	2,400	8,200
Resale Lines	29,600	64,500	94,100
Total	**211,000**	**462,000**	**673,000**

*Based on E911 listings; includes unbundled loops.

6. *CLECs are serving different geographic regions throughout Verizon Virginia's territory*. Competitors in Virginia are using all three modes of competitive entry throughout Verizon Virginia's territory, and are using them to serve both business and residential customers. As noted below, CLECs have obtained collocation, platforms, and resale in every area code of the Commonwealth. *See* Table 2 & Exhibit 2.

Table 2. Competitor Access Lines by Area Code as of December 2001

	703/571 (overlay)	**757**	**804/434***	**540/276***	**Total**
Facilities-Based (utilizing CLEC switches)****					
Business Lines	239,000	90,700	59,400	6,200	395,000
Residential Lines	18,000	81,300	75,200	1,600	176,000
Facilities-Based (utilizing UNE platform)					
Business Lines	740	530	790	320	2,400
Residential Lines	340	2,900	1,700	910	5,800
Resale					
Business Resale Lines	22,900	13,600	14,600	13,400	64,500
Residential Resale Lines	5,500	11,000	7,600	5,600	29,600
Total	**286,000**	**200,000**	**159,000**	**28,000**	**673,000**

*The 434 area code was fully implemented on January 15, 2002. Full implementation of the 276 area code is scheduled for March 15, 2002.

**Based on E911 listings; includes unbundled loops.

FACILITIES-BASED LOCAL EXCHANGE COMPETITION

7. As of the end of 2001, more than 200 companies have been authorized to provide competitive local exchange service in Virginia. More than 60 of these CLECs are currently active, as determined by the in-service status of volumes of UNEs, resale lines, interconnection trunks, listings in the E911 database or directories, and ported numbers. As of December 2001, Verizon has approximately 190 approved interconnection agreements in Virginia, and approximately 30 are pending approval. These include approximately 130 agreements for facilities-based service, and approximately 70 agreements for resale only.

8. According to public sources, competitors in Virginia have deployed more than 50 local voice switches that are used to provide service in Virginia, and at least 2,000 route miles of local fiber.[5] AT&T operates nine local voice switches, three of which are a part of its Richmond network.[6] Adelphia operates four fiber networks with two local voice switches.[7] WorldCom, which operates a network in Reston, has deployed at least 71 route miles of fiber and two local voice switches.[8] Cox has deployed at least 1,800 route miles of fiber and two local voice switches.[9] Cavalier and KMC Telecom have each deployed at least 150 route miles of fiber, with three local voice switches, and two local voice switches, respectively.[10] US LEC has installed three local voice switches; ALLTEL and Net2000 have each installed two local voice switches.[11] Comcast and XO Communications have each installed at least one local voice switch used to provide service in Virginia.[12]

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[5] Telcordia, *Local Exchange Routing Guide (LERG)* (August 2001) ("*August 2001 LERG*"); New Paradigm Resources Group, Inc., *CLEC Report 2001*, Ch. 13 (14th ed. 2001) ("*CLEC Report 2001*"); New Paradigm Resources Group, *CLEC Report 2000*, Ch. 9 (12th ed. 2000) ("*CLEC Report 2000*"); New Paradigm Resources Group, Inc. & Connecticut Research, *1997 Annual Report on Local Telecommunications Competition* at 450 (8th ed. 1996) ("*CLEC Report 1997*"). Local voice switches installed in Washington, D.C. and Maryland may also be used to provide service in Virginia. More than half of the local voice switches installed by CLECs in Washington, D.C., and local voice switches installed by CLECs in Rockville and Laurel, Md. currently serve rate centers in northern Virginia. *See August 2001 LERG*.

[6] New Paradigm Resources Group, Inc., *CLEC Report 2002*, Ch. 6 – AT&T at 21 (15th ed. 2002) ("*CLEC Report 2002*"); *August 2001 LERG*.

[7] *CLEC Report 2002*, Ch. 6 – Adelphia Business Solutions at 16-17; *August 2001 LERG*.

[8] *CLEC Report 2002*, Ch. 6 – WorldCom at 15; *CLEC Report 1997*, Ch. 10 – MFS Communications at 450; *August 2001 LERG*.

[9] *CLEC Report 2000*, Ch. 9 – Cox Communications at 7; *August 2001 LERG*.

[10] *CLEC Report 2000*, Ch. 9 – Cavalier Telephone at 5; KMC Telecom at 11; *August 2001 LERG*.

[11] *August 2001 LERG*.

[12] *August 2001 LERG*. Other CLECs that have deployed voice switches that are used to provide service in Virginia include: Advanced Telcom Group, BroadStreet Communications, e.spire Communications, Global Crossing Telemanagement, Global NAPS South, ICG Telecom Group, Intermedia, Level 3 Communications, NTELOS, OpenBand of Virginia, PaeTec Communications, Picus Communications, SBC Telecom, Shen Tel Communications, Teligent and WinStar. *Id.*

9. Competitors also are deploying data switches in Virginia, and may use them to provide voice services.[13] Analysts have noted, for example, that "telephone networks are gradually migrating from circuit-switched to packet switched."[14] In early 2001, both AT&T and WorldCom announced the launch of Voice-over-IP services.[15] According to public sources, CLECs in Virginia have deployed at least 17 data switches in addition to local voice switches.[16]

A. Interconnection/Collocation

10. A collocation arrangement is the physical point of interconnection between Verizon and a CLEC's network. Competitors that obtain collocation typically do so in order to serve local customers using at least some of their own facilities. A competitor that collocates in a central office gains access to all customers served by that office. Through December 2001, competitors have in service approximately 640 collocation arrangements in Virginia.[17] Through these arrangements, competitors have access to 87 percent of the switched access lines served by Verizon in Virginia – approximately 92 percent of Verizon's business access lines, and approximately 83 percent of Verizon's residential access lines. Competitors have obtained collocation in wire centers and towns across Virginia.

11. Competitors exchange traffic with Verizon's network through interconnection trunks supplied by Verizon or the CLECs themselves. Carriers typically determine the number of interconnection trunks they obtain based on the number of lines they serve and the average amount of traffic carried over those lines. As of the end of December 2001, Verizon was providing approximately 212,000 interconnection trunks to more than 30 competitors in Virginia. The number of interconnection trunks obtained by competitors has grown more than 235 percent since the beginning of 2000.

12. Verizon exchanged a total of 14.2 billion minutes with competitors in 2001 – an average of approximately 1.2 billion minutes each month, an increase of nearly 275 percent over the average number of minutes exchanged in 1999, and an increase of 40 percent over the average number of minutes exchanged in 2000.

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[13] *See*, *e.g.*, T. Greene, *CLECs Exploit Innovation in Race Against RBOCs*, Network World at 32 (Mar. 27, 2000) ("Rather than spend the millions it takes to buy a traditional local telephone switch . . . CLECs buy switches that handle data and voice at a tenth of the cost.").

[14] *See*, *e.g.*, T.K. Horan, *et al*., CIBC Oppenheimer, Investext Rpt. No. 2749262, Telecom Services: Daily Teletimes – Industry Report at *1 (Mar. 9, 1999).

[15] *See* M. Smetannikov, *AT&T Bets on Voice-Over-IP*, Interactive Week (Feb. 5, 2001), http://www.zdnet.com/intweek/stories/news/0,4164,2681792,00.html.

[16] *CLEC Report 2002*, Ch. 5 at 154-157; US LEC Press Release, *US LEC Enhances Data Network* (May 17, 2001). CLECs that have deployed data switches include: AT&T, Intermedia Communications, Net2000, Arbros Communications, US LEC, E.spire, Network Access Solutions, and NTELOS.

[17] These figures exclude any collocation arrangements provided for Verizon Advanced Data Inc.

B. NXX Codes and Ported Numbers

13. A CLEC that operates its own switch must obtain telephone numbers for that switch in order to serve local customers. A CLEC can obtain numbers in one of two ways. First, it can obtain telephone number blocks from the North American Numbering Plan administrator. Second, a CLEC can port a number from an ILEC's switch to its own switch.

14. Telephone numbers are currently assigned to all CLECs (and ILECs) in blocks of 10,000 (NXX codes), or in blocks of 1,000 (telephone number blocks are subsets of NXX codes). Industry guidelines, established at the direction of the FCC,[18] direct every CLEC that obtains a numbering code to specify the rate exchange area it intends to serve, and the switch from which it intends to provide service. Through December 2001, CLECs have obtained NXX codes and telephone number blocks in Virginia, representing a total of approximately 5.6 million telephone numbers. Competitors have obtained multiple telephone numbers to serve customers throughout Virginia. *See* Table 3.

Table 3. Competitor Telephone Numbers by Area Code

	703/571 (overlay)	757	804/434	540/276	Total
Telephone Number Blocks *	2,200	1,000	1,700	770	5,600

*Converting NXX code volumes to 1,000-number blocks.

15. Each telephone number ported from Verizon to a competitor represents a line served by that competitor's own switch (though not all lines served by a competitor's switch will have a ported number). Through December 2001, Verizon has ported approximately 436,000 numbers to approximately 25 CLECs through long-term (permanent) number portability ("LNP"). Competitors have ported numbers to serve customers throughout Virginia. *See* Table 4.

Table 4. Ported Numbers by Area Code

	703/571 (overlay)	757	804/434	540/276	Total
LNP	153,000	140,000	105,000	34,000	436,000

C. Customers Served by Competitive Facilities

16. Through December 2001, competitors in Virginia were serving approximately 571,000 lines in Virginia either wholly or partially over facilities they have deployed themselves, including in all cases their own local switches.

[18] *See* ATIS, *Central Office Code (NXX) Assignment Guidelines*, INC 95-0407-008 (Reissued Jan. 8, 2001), at 3 & n.1.

17. The figure of 571,000 facilities-based lines in Virginia is conservatively based on the number of E911 listings that competitors have in the Commonwealth. CLECs that serve customers using their own switch are responsible for entering information about those customers in the E911 database. Each E911 listing that a competing carrier places in this database therefore represents at least one customer line served by that CLEC's own switch. The number of competitive E911 listings is a conservative estimate of the number of facilities-based lines that CLECs serve because, while each E911 subscriber listing represents at least one customer access line, it may represent more than a single line. In the case of business customers, for example, a single E911 listing may represent many individual lines. In addition, there are no E911 listings for competitors' DSL lines that are used exclusively to provide data services. The total number of E911 listings that competitors have obtained therefore understates the number of facilities-based lines that competitors serve. At the same time, however, a competitor may obtain an E911 listing for customers that it serves using unbundled loops obtained from an ILEC. In Virginia, CLECs have obtained approximately 134,000 unbundled analog loops.

18. Through December 2001, competitors in Virginia were serving approximately 176,000 residential lines using either wholly or partially over facilities they have deployed themselves, including in all cases their own local switches.

USE OF UNBUNDLED NETWORK ELEMENTS

19. Numerous CLECs are purchasing Verizon UNEs and UNE platforms in commercial volumes to serve business and residential customers throughout Verizon Virginia's territory. *See* Exhibit 2.

20. Through December 2001, Verizon has provided a total of approximately 163,000 unbundled loops to more than 25 different competitors. This figure includes approximately 155,000 loops provided on a stand-alone basis (which includes approximately 16,300 loops used to provide DSL services), plus approximately 8,200 loops provided as part of platforms. Competitors have obtained loops to serve both residential and business customers in Virginia.

21. Verizon is providing unbundled local switching to approximately 10 different CLECs. Through December 2001, Verizon has provided competitors with approximately 8,200 unbundled switching line ports as part of UNE platforms. Through December 2001, Verizon has provided approximately 400 unbundled dedicated local transport facilities to approximately 10 different CLECs.

RESALE COMPETITION

22. Numerous competitors are providing resale service to every type of customer in every part of Virginia. *See* Exhibit 2. Through December 2001, approximately 50 competitors in Virginia were reselling approximately 94,100 lines, including approximately 64,500 business lines and approximately 29,600 residential lines. *See* Table 1. Two companies resell more than 10,000 lines, another 16 resell more

than 1,000 lines, and another 18 resell more than 100 lines. All of Verizon's wire centers in Virginia contain at least one resold line, and 94 percent contain at least ten.

PROFILES OF MAJOR FACILITIES-BASED COMPETITORS

A. Adelphia Business Solutions

23. Adelphia Business Solutions (formerly Hyperion Telecommunications) was formed in 1991 by Adelphia Communications, one of the nation's largest cable television providers, to provide integrated communications services, including local service, to business customers.[19] Adelphia operates fiber networks and local voice switches in Richmond and Norfolk, as well as a fiber network in Danville.[20]

24. Based on its E911 listings as of the end of December 2001, Adelphia serves approximately **[begin Adelphia proprietary] [end Adelphia proprietary]** business lines in Virginia wholly or partially over facilities it has deployed itself, including in all cases its own local switches. Adelphia also serves approximately **[begin Adelphia proprietary] [end Adelphia proprietary]** business lines on a resale basis. Adelphia has ported approximately **[begin Adelphia proprietary] [end Adelphia proprietary]** numbers, and has obtained NXX codes and telephone number blocks representing a total of 594,000 telephone numbers in Virginia.

B. Allegiance Telecom

25. Allegiance Telecom is a facilities-based integrated communications provider serving primarily business customers in the Washington, D.C. metro area, including the communities of Alexandria, Arlington, Falls Church and McLean in northern Virginia.[21]

26. Based on its E911 listings as of the end of December 2001, Allegiance serves approximately **[begin Allegiance proprietary] [end Allegiance proprietary]** business lines in Virginia either wholly or partially over facilities it has deployed itself, including in all cases its own local switches. Allegiance is using approximately **[begin Allegiance proprietary] [end Allegiance proprietary]** unbundled analog loops and has ported approximately **[begin Allegiance proprietary] [end Allegiance proprietary]** numbers in Virginia. Allegiance has obtained NXX codes and telephone number blocks representing a total of 70,000 numbers in

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[19] Adelphia Business Solutions Press Release, *Hyperion Telecommunications, Inc. Completes Name Change to Adelphia Business Solutions, Inc.* (Oct. 25, 1999).

[20] *CLEC Report 2002*, Ch. 6 – Adelphia Business Solutions at 16-17; *Ticker*, Daily Press at E1 (Mar. 12, 2000); *August 2001 LERG*. As of January 2001, Adelphia also was building a 700-mile fiber network in the Norfolk area. *See* V. Sinha, *$175 Million Pumped into Richmond Phone Firm Competition Pleased that Investors are Supporting Telecom*, Virginian-Pilot at D1 (Jan. 3, 2001).

[21] *CLEC Report* 2002, Ch. 6 – Allegiance Telecom at 3. Adelphia began providing local service in Virginia in the first quarter of 1999. *See* K. Hoover & C. Munson, *Allegiance to Enter Local Telephone Market*, Wash. Bus. J. (Nov. 6, 1998).

Virginia. The company does not appear to provide service in Virginia using platforms or resale.

C. ALLTEL

27. ALLTEL offers a full range of telecommunications services, including local service (both as an incumbent and as a CLEC), long distance, wireless, and DSL services.[22] ALLTEL has more than eight million communications customers in 25 states, and more than $7 billion in annual revenues.[23] In Virginia, ALLTEL currently offers competitive local voice and data services in Hampton, Newport News, Norfolk, Portsmouth, Richmond and Virginia Beach.[24] ALLTEL operates local voice switches in Richmond and Chesapeake.[25]

28. Based on its E911 listings as of the end of December 2001, ALLTEL provides service to approximately **[begin ALLTEL proprietary] [end ALLTEL proprietary]** lines in Virginia either wholly or partially over facilities it has deployed itself, including in all cases its own local switches. This includes approximately **[begin ALLTEL proprietary] [end ALLTEL proprietary]** business lines and approximately **[begin ALLTEL proprietary] [end ALLTEL proprietary]** residential lines. In addition, ALLTEL provides service to approximately **[begin ALLTEL proprietary] [end ALLTEL proprietary]** lines – including approximately **[begin ALLTEL proprietary] [end ALLTEL proprietary]** residential lines – through resale. ALLTEL has ported approximately **[begin ALLTEL proprietary] [end ALLTEL proprietary]** numbers, and is using approximately **[begin ALLTEL proprietary] [end ALLTEL proprietary]** unbundled analog loops. ALLTEL has obtained NXX codes and telephone number blocks representing a total of 53,000 numbers in Virginia.

D. AT&T

29. AT&T is one of the largest facilities-based CLECs in the U.S. In Virginia, AT&T has deployed a network in the Richmond metropolitan area with three local voice switches.[26] The company provides service in Virginia using local voice switches installed in Norfolk, Roanoke, Fredericksburg, Arlington and Washington, D.C.[27] AT&T

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[22] New Paradigm Resources Group, Inc., *CIOC Report 2001,* Ch. 7 – ALLTEL at 3 (1st ed. 2001) ("*CIOC Report 2001*").

[23] *CLEC Report 2001,* Ch. 13 – ALLTEL at 12.

[24] *CIOC Report 2001*, Ch. 7 – ALLTEL at 9-10.

[25] *August 2001 LERG*; *On the Move*, Daily Press (Jan. 8, 2001).

[26] *CLEC Report 2002*, Ch. 6 – AT&T Corp. at 21; *August 2001 LERG*.

[27] *August 2001 LERG*.

also is one of the largest cable operators in Virginia,[28] and provides voice telephony services over part of its cable network in the Commonwealth.[29]

30. Based on its E911 listings as of the end of December 2001, AT&T serves at least **[begin AT&T proprietary] [end AT&T proprietary]** lines in Virginia either wholly or partially over facilities it has deployed itself, including in all cases its own local switches. This includes approximately **[begin AT&T proprietary] [end AT&T proprietary]** residential lines that AT&T serves over its own cable network. In addition, AT&T provides service to approximately **[begin AT&T proprietary] [end AT&T proprietary]** business lines through UNE platforms. AT&T has ported approximately **[begin AT&T proprietary] [end AT&T proprietary]** numbers, and is using approximately **[begin AT&T proprietary] [end AT&T proprietary]** unbundled analog loops in Virginia. AT&T has obtained NXX codes and telephone number blocks representing a total of 484,000 numbers in Virginia.

E. Cavalier Telephone

31. Cavalier Telephone, based in Richmond, boasts "a state-of-the-art telecommunications network in Richmond, Hampton Roads, and northern Virginia, including 150 miles of fiber optic backbone, three Lucent 5EE switches, and more than 60 colocation sites."[30] Cavalier states that its "one purpose" is to provide competition for Verizon.[31] The company provides service to both business and residential customers, and has recently stated that it is adding 10,000 new customers each month.[32] According to Cavalier, seventy percent of its customer base in Virginia is residential.[33]

32. Based on its E911 listings as of the end of December 2001, Cavalier provides service to at least **[begin Cavalier proprietary] [end Cavalier**

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[28] AT&T serves approximately 150,000 cable subscribers in Richmond and Ashland and the counties of Henrico, Hanover, Goochland and Louisa. G. Edwards, *AT&T Cable Monthly Rate to Go Up 5%, or About $1.50*, Richmond Times-Dispatch at B-12 (Jan. 4, 2001).

[29] G. Edwards, *Changes Affect Local Cable Firms*, Richmond Times-Dispatch at B-8 (Aug. 24, 2000).

[30] Cavalier Telephone, *Company History*, http://www.cavtel.com/about/about_history.htm. Cavalier operates local voice switches in Richmond, Norfolk, and Herndon. *August 2001 LERG*. In January 2001, Cavalier received $175 million from a variety of corporate and institutional investors to fund its expansion. Cavalier Telephone Press Release, *Cavalier Telephone Completes $175 Million Financing Package; Expansion Business Plan Now Fully Funded* (Jan. 5, 2001).

[31] Cavalier Telephone, *About Us*, http://www.cavtel.com/about/about_main.htm. Cavalier began offering local service in the Richmond area in 1999. G. Edwards, *Competition Comes Calling*, Richmond Times-Dispatch at D16 (Jan. 10, 2000). Today, Cavalier provides local voice and data service in Alexandria, Annandale, Arlington, Baileys Crossroads, Centerville, Chantilly, Fairfax, Falls Church, Hampton Roads, Herndon, McLean, Norfolk, Reston, Richmond, Springfield, Sterling, Tysons Corner, and Vienna. *CLEC Report 2001*, Ch. 13 – Cavalier Telephone at 5-6.

[32] Cavalier Telephone Press Release, *Cavalier Telephone Expands Battle from Marketplace to Courtroom* (Nov. 1, 2001).

[33] V. Sinha, *$175 Million Pumped Into Richmond Phone Firm Competition Pleased That Investors Are Supporting Telecom*, Virginian-Pilot at D1 (Jan. 3, 2001).

proprietary] lines in Virginia either wholly or partially over facilities it has deployed itself, including in all cases its own local switches. This includes approximately **[begin Cavalier proprietary] [end Cavalier proprietary]** business and approximately **[begin Cavalier proprietary] [end Cavalier proprietary]** residential lines. Cavalier has ported approximately **[begin Cavalier proprietary] [end Cavalier proprietary]** numbers, and is using approximately **[begin Cavalier proprietary] [end Cavalier proprietary]** unbundled analog loops. Cavalier has obtained NXX codes and telephone number blocks representing a total of 215,000 numbers in Virginia.

F. Comcast

33. Comcast, the third largest cable company in the U.S.,[34] provides service to residential and business customers over its cable facilities in northern Virginia.[35] According to public sources, as of August 2001, Comcast provides service to 15,000 subscribers in Alexandria.[36] Based on its E911 listings as of the end of December 2001, Comcast provides service to at least **[begin Comcast proprietary] [end Comcast proprietary]** lines in Virginia either wholly or partially over facilities it has deployed itself, including in all cases its own local switches. This includes at least **[begin Comcast proprietary] [end Comcast proprietary]** business and approximately **[begin Comcast proprietary] [end Comcast proprietary]** residential lines. Comcast operates a local voice switch in Alexandria with at least 43 buildings on-net in Alexandria, and at least 11 buildings on-net in Prince William County.[37] Comcast has ported approximately **[begin Comcast proprietary] [end Comcast proprietary]** numbers in Virginia, and is using approximately **[begin Comcast proprietary] [end Comcast proprietary]** unbundled analog loops. Comcast has obtained NXX codes and telephone number blocks representing a total of 80,000 numbers in Virginia.

G. Cox Communications

34. Cox provides service to business and residential customers in Virginia.[38] Cox has deployed at least 1,800 route miles of fiber and operates local voice switches in Norfolk and Newport News.[39] Cox provides residential service over its cable network in

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[34] NCTA, *Top 25 MSOs*, http://www.ncta.com/industry_overview/top50mso.cfm (as of Sept. 2001).

[35] Comcast acquired Jones Intercable in March 2000. Comcast Press Release, *Comcast Completes Acquisition of Jones Intercable, Inc.* (Mar. 2, 2000). Jones Intercable began providing local phone service in Alexandria to multi-dwelling units in November 1995. *See* Jones Intercable, Form 10-K (SEC filed Mar. 13, 1996).

[36] M. Stump, *Comcast's Phone Forecast: Legacy Subs in Black by '02*, Multichannel News at 25 (Aug. 27, 2001).

[37] *CLEC Report 2002*, Ch. 6 – Comcast Business Communications at 8; *August 2001 LERG*.

[38] *CLEC Report 2002*, Ch. 6 – Cox Communications at 3.

[39] *August 2001 LERG*.

Hampton Roads and parts of Newport News, Williamsburg, and Virginia Beach.[40] According to Cox president and CEO Jim Robbins, Cox customers are responding "[b]eyond [Cox's] wildest expectations."[41]

35. Based on its E911 listings as of the end of December 2001, Cox provides local phone service to at least **[begin Cox proprietary] [end Cox proprietary]** lines in Virginia either wholly or partially over its own facilities, including in all cases its own local switches. This includes at least **[begin Cox proprietary] [end Cox proprietary]** business and approximately **[begin Cox proprietary] [end Cox proprietary]** residential lines. In addition, Cox provides service to approximately **[begin Cox proprietary] [end Cox proprietary]** business lines through resale. As of the end of December 2001, Cox has ported approximately **[begin Cox proprietary] [end Cox proprietary]** numbers in Virginia and is using approximately **[begin Cox proprietary] [end Cox proprietary]** unbundled analog loops. Cox has obtained NXX codes and telephone number blocks representing a total of 178,000 numbers in Virginia.

H. KMC Telecom

36. KMC Telecom is a fiber-based integrated communications provider, offering voice, data, and network applications services.[42] KMC began reselling Verizon services in Virginia in 1998.[43] KMC has since deployed at least 150 route miles of fiber, and operates one local voice switch in Roanoke and another local voice switch in Portsmouth.[44] KMC also operates data networks in both Roanoke and Hampton Roads.[45]

37. Based on its E911 listings as of the end of December 2001, KMC provides service to at least **[begin KMC proprietary] [end KMC proprietary]** lines in Virginia either wholly or partially over facilities it has deployed itself, including in all cases its own switches. This includes at least **[begin KMC proprietary] [end**

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[40] Cox Communications, *Cox Digital Telephone*, http://www.cox.com/Hamptonroads/DigitalTelephone/default.asp?c=main.asp&; Cox Communications, *Cox Digital Telephone: Availability*, http://www.cox.com/Hamptonroads/DigitalTelephone/default.asp?c=main.asp&. Cox Digital Telephone service offers Cox cable customers "a less expensive, digital, reliable alternative for residential service." Jim Robbins, President and Chief Executive Officer, Cox Communications, Inc., *Telecommunications Competition Is Flowing*, http://www.cox.com/corp/Competition.asp.

[41] *Id*.

[42] KMC Press Release, *KMC Telecom Launches ASP Services in Roanoke, Providing Key Business Software Applications Via Fiber Optic Network* (Jan. 8, 2001); *In Business*, Roanoke Times & World News at A8 (Jan. 9, 2001). KMC operates in 37 cities in the U.S., with more than 12,000 customers using eight million access lines over 150,000 fiber optic miles. KMC Telecom, *Executive Strategies* (Roanoke, VA), Vol. 1, No. 1 (Spring 2001), http://www.kmctelecom.com/cities/pdf/Roanoke.pdf.

[43] P. Dujardin, *N. J. Firm To Provide Local Phone Service: KMC Telecom Holdings Will Target Business Customers*, Daily Press at C9 (May 19, 1999).

[44] *CLEC Report 2000*, Ch. 9 – KMC Telecom, Inc. at 11; *August 2001 LERG*.

[45] *CLEC Report 2002*, Ch. 6 – KMC Telecom, Inc. at 14.

KMC proprietary] business and approximately **[begin KMC proprietary] [end KMC proprietary]** residential lines. KMC also provides service to approximately **[end KMC proprietary] [end KMC proprietary]** business lines using resale. As of the end of December 2001, KMC has ported approximately **[begin KMC proprietary] [end KMC proprietary]** numbers in Virginia and is using approximately **[begin KMC proprietary] [end KMC proprietary]** unbundled analog loops. KMC has obtained NXX codes and telephone number blocks representing a total of 447,000 numbers in Virginia.

I. Net2000 Communications

38. Net2000, a facilities-based communications services provider, marketed itself as "an alternative to the traditional telephone companies."[46] In November 2001, Net2000 filed a voluntary petition with the U.S. Bankruptcy Court in Delaware for Chapter 11 reorganization.[47] On this same date, Net2000 announced its agreement to sell substantially all of its assets, including its customer base, to Cavalier Telephone.[48] Prior to this announcement, Chairman and CEO Charlie Thomas remarked that Net2000 was doing "extraordinarily well" in Virginia markets.[49]

39. Net2000 established a major presence in Virginia. The company provides voice services in Alexandria, Hampton Roads, Norfolk, and Richmond.[50] Net2000 provides data services in Richmond and Williamsburg, and operates both a local voice and a data switch in Richmond and Washington, D.C., as well as data switches in Norfolk and Williamsburg.[51] Based on its E911 listings as of the end of December 2001, Net2000 serves at least **[begin Net2000 proprietary] [end Net2000 proprietary]** lines in Virginia – including approximately **[begin Net2000 proprietary] [end Net2000 proprietary]** residential lines – either wholly or partially over its own facilities, including in all cases its own switches. In addition, Net2000 provides service to approximately **[begin Net2000 proprietary] [end Net2000 proprietary]** business lines through resale. Net2000 has ported approximately **[begin Net2000 proprietary] [end Net2000 proprietary]** numbers in Virginia, and has obtained NXX codes and telephone number blocks representing a total of 576,000 numbers in Virginia.

J. US LEC

40. US LEC is a switch-based telecommunications carrier providing integrated local, long distance, data and Internet services to businesses in major cities

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[46] Net2000, Form 10-K at 5 (SEC filed Apr. 13, 2001).

[47] Net2000 Press Release, *Net2000 Communications, Inc. Agrees to Sell Core Telecom Assets to Cavalier Telephone and Video Assets to Venturehouse Group; Files Voluntary Chapter 11 Petition* (Nov. 16, 2001).

[48] *Id.*

[49] R. Burke, *Phone Wars*, Virginia Business at 29 (July 2001).

[50] *CLEC Report 2002*, Ch. 6 – Net2000 Communications at 8.

[51] *CLEC Report 2002*, Ch. 6 – Net 2000 Communications at 8; *August 2001 LERG*.

throughout the southeastern and mid-Atlantic United States.[52] The company began providing service in Virginia in March 1999.[53] Today, US LEC's network in Virginia consists of three local voice switches in Richmond, Virginia Beach, and Tysons Corner, and Lucent CBX500 ATM data switches in Richmond, Norfolk, and northern Virginia/Washington, D.C.[54]

41. Based on its E911 listings as of the end of December 2001, US LEC provides service to at least **[begin US LEC proprietary] [end US LEC proprietary]** business lines in Virginia either wholly or partially over its own facilities, including in all cases its own local switch. The company has ported approximately **[begin US LEC proprietary] [end US LEC proprietary]** numbers in Virginia, and has obtained NXX codes and telephone number blocks representing a total of 219,000 numbers in Virginia. The company does not appear to provide service in Virginia using platforms or resale.

K. WorldCom

42. WorldCom began providing competitive local services in Virginia in 1995.[55] WorldCom provides service in Virginia using its local voice switches installed in Reston and Washington, D.C.;[56] WorldCom's local networks in Virginia include at least 71 route miles of fiber.[57] Based on its E911 listings as of the end of December 2001, WorldCom provides service to at least **[begin WorldCom proprietary] [end WorldCom proprietary]** business lines in Virginia either wholly or partially over facilities it has deployed itself, including in all cases its own local switches. In addition, WorldCom provides service to approximately **[begin WorldCom proprietary] [end WorldCom proprietary]** business lines through resale. WorldCom has ported approximately **[begin WorldCom proprietary] [end WorldCom proprietary]** numbers in Virginia, and is using approximately **[begin WorldCom proprietary] [end WorldCom proprietary]** unbundled analog loops. WorldCom has obtained NXX codes and telephone number blocks representing a total of 300,000 numbers in Virginia.

L. XO Communications

43. XO Communications was formed by the merger of NEXTLINK Communications and Concentric Networks.[58] XO is a nationwide provider of local, long distance, and enhanced communications services to business customers over both

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[52] US LEC, *About Us*, http://www.uslec.com/.

[53] US LEC Press Release, *US LEC Completes Switch Installation in Northern Virginia/Washington, DC* (Jan. 12, 2000).

[54] *August 2001 LERG*; US LEC Press Release, *US LEC Enhances Data Network* (May 17, 2001).

[55] MFS began offering service in Richmond in 1995. *CLEC Report 1997* at 450.

[56] *August 2001 LERG*.

[57] *CLEC Report 1997* at 450.

[58] XO Communications News Release, *NEXTLINK and Concentric Become XO Communications* (Sept. 25, 2000).

landline and fixed wireless networks.[59] The company established its headquarters in Reston in the first quarter of 2000.[60] XO provides service in Virginia using a local voice switch installed in Washington, D.C.[61] Based on its E911 listings, XO serves approximately **[begin XO proprietary] [end XO proprietary]** business lines in Virginia either wholly or partially over facilities it has deployed itself, including in all cases its own local switches. XO has ported approximately **[begin XO proprietary] [end XO proprietary]** numbers in Virginia, and is using approximately **[begin XO proprietary] [end XO proprietary]** unbundled analog loops. XO has obtained NXX codes and telephone number blocks representing a total of 90,000 numbers in Virginia. The company does not appear to provide service in Virginia using platforms or resale.

OTHER SOURCES OF LOCAL COMPETITION

44. Data traffic is growing much faster than voice traffic.[62] Many of the competitors discussed below have specifically targeted the data market.

45. Once cable TV providers upgrade their networks to provide high-speed two-way cable modem service, they also may be able to use these networks to provide voice services.[63] Voice over IP and ATM technologies allow end users to "place a call anywhere over a data network and enjoy the level of quality that is associated with circuit switched technology."[64] In 1999 alone, Virginia cable companies invested $300 million in infrastructure within the Commonwealth "in order to improve service quality and reliability, and to offer new services such as high speed data over cable modems, telephone service and digital cable."[65]

46. Cox Communications provides cable service to over 700,000 customers in Virginia.[66] Cox began aggressively advertising Cox@Home, a high-speed Internet

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[59] XO Communications, Form 10-K (SEC filed Apr. 2, 2001).

[60] XO Communications, Form 10-K (SEC filed Apr. 2, 2001).

[61] *August 2001 LERG.*

[62] *See, e.g.*, A. Shah, Pacific Crest Securities, Investext Rpt. No. 2252523, Sonus Networks, Inc. – Company Report at *2 (Aug. 9, 2000) ("Data traffic is growing at an estimated rate of 300% per annum. Voice traffic, on the other hand, is growing linearly. In 1998-1999, data traffic on carrier networks exceeded voice traffic for the first time.").

[63] For example, a CableLabs report describes how packetized voice services may be deployed "with minimal incremental cost" after a DOCSIS (data-over-cable) upgrade is completed. *See* Cable Television Laboratories, Inc., *PacketCable 1.0 Architecture Framework Technical Report* at 1 (1999).

[64] D. Heger, A.G. Edwards & Sons, Inc., Investext Rpt. No. 2820891, Telecommunications Equipment – Industry Report (Dec. 9, 1998); *see also* B. Robinson, *Sticking Around – Don't Believe Everything You Read (Except This), ATM Is Still Alive and Kicking*, tele.com (Nov. 27, 2000) (ATM "offers quality of service (QoS) for voice and can handle the service converged with data.").

[65] Virginia Cable Telecommunications Association, *Cable's Contributions to Virginia*, http://www.vcta.com/contributions.html.

[66] *See* Cox Communications, *About Cox*, http://www.cox.com/HAMPTONROADS/About/default.asp?c=main.asp& (Cox provides service to nearly 400,000 customers through out the Hampton

service, to its 58,000 cable customers in Roanoke, Roanoke County, and Vinton, in 2000.[67] Cox spent $13 million to upgrade its network there, and laid 550 miles of fiber-optic and coaxial cable to offer new broadband service, including cable modem and digital TV.[68] Cox has been offering cable modem service in Newport News since 1997,[69] in Hampton Roads since 1999,[70] and in northern Virginia since 2000.[71]

47. AT&T Broadband has been providing cable modem service in Richmond since June 1999.[72] AT&T recently finished upgrading its cable network in the Richmond area at a total cost of $200 million.[73] In addition to Richmond, AT&T currently offers its cable modem service in Ashland, and parts of Henrico, Hanover, and Goochland counties.[74] Currently, AT&T has 17,000 subscribers to its cable modem service in Virginia.[75]

48. Comcast Cablevision began offering its @Home service in Chesterfield County in July 1998.[76] As of May 2000, approximately 5,000 of Comcast's 70,000 cable subscribers there had signed up for high-speed Internet access.[77] Comcast also offers service through its Planet Cable partnership in the Carlisle/Chambersburg area.[78] In

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Roads area); Cox Communications, *About Cox*, http://www.cox.com/ROANOKE/About (over 58,000 cable customers in the Roanoke area); Cox Press Release, *Cox Communications to Acquire Media General Systems in Northern Virginia* (Apr. 22, 1999) (Cox acquired more than 260,000 customers in Fairfax County and Fredericksburg through the acquisition of Media General systems in 1999).

[67] S. Brown Kelly, *Online on Cable; Cox Communications Isn't Just for TV Lovers Anymore. It Has Started Connecting with Internet Fans, Too*, Roanoke Times & World News at 1 (July 16, 2000).

[68] *Id.*

[69] L. Wagner, *Cox Offers Speedier Internet*, Virginian-Pilot at D1 (Nov. 25, 1997).

[70] S. Brown Kelly, *Online on Cable; Cox Communications Isn't Just for TV Lovers Anymore. It Has Started Connecting with Internet Fans, Too*, Roanoke Times & World News at 1 (July 16, 2000).

[71] *Id.* Cox offers @Home service in Hampton Roads, Road Runner service in Fairfax, and ISP Channel service in Fredericksburg. Cable Datacom News, *Commercial Cable Modem Launches in North America*, http://cabledatacomnews.com/cmic/cmic7.html.

[72] G. Edwards, *Internet Service Starts Today*, Richmond Times-Dispatch at C-1 (June 12, 1999). AT&T's Road Runner service in Richmond was launched by MediaOne. *Id.* MediaOne, now AT&T Broadband, began offering local phone service in Richmond over its cable network in 1998. G. Edwards, *MediaOne to Offer Phone Service*, Richmond Times-Dispatch at B-6 (Oct. 1998).

[73] M. McCance, *AT&T: 'Essentially, It's Done'*, Richmond Times-Dispatch (Feb. 3, 2002) (citing company sources).

[74] Cable Datacom News, *Commercial Cable Modem Launches in North America*, http://cabledatacomnews.com/cmic/cmic73.html; M. McCance, *Monthly Fee Cut Is Result of High-Speed Net Fight*, Richmond Times-Dispatch at E-6 (Jan. 21, 2001).

[75] M. McCance, *AT&T: 'Essentially, It's Done'*, Richmond Times-Dispatch (Feb. 3, 2002).

[76] G. Edwards, *Comcast Enters High-Speed 'Net Service in Richmond, Va.-Area*, Richmond Times-Dispatch (July 1, 1998).

[77] M. McCance, *Jacking Up the Connection; Companies Roll Out High-Speed Internet Access for Homes*, Richmond Times-Dispatch (May 22, 2000) (quoting Comcast General Manager Kirby Brooks).

[78] *Cable TV Firms Rollout High-Speed Internet Access with More Nodes*, Quad-State Bus. J. at 17 (Nov. 2000). Comcast completed its acquisition of Jones Intercable, which provided cable modem service

northern Virginia, Comcast provides @Home service in Alexandria and Woodbridge, and Expressnet service in Arlington.[79]

49. Adelphia provides cable modem services extensively throughout Virginia, offering its Powerlink service in Waynesboro, Winchester, Staunton, Fredericksburg, Charlottesville, and Blacksburg.[80] As a result of recent acquisitions including 30,000 cable subscribers through Cablevision of Loudoun,[81] and 43,000 cable subscribers through Prestige Cable,[82] Adelphia's Virginia cluster exceeds 700,000 cable subscribers.[83]

50. Bedford CableVision offered the first cable modem service in central Virginia in November 1996.[84] Charter Communications provides service in Bedford City, Franklin County, Christianburg, and Russell County,[85] and plans to offer high-speed Internet service in Suffolk in the middle of 2001.[86] Chatmoss Cablevision offers cable modem service in Danville.[87] Cable modem access is available to 90 percent of Antietam Cable's system in Hagerstown.[88]

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in Alexandria and Prince William County, in March 2000. Comcast Press Release, *Comcast Completes Acquisition of Jones Intercable, Inc.* (Mar. 2, 2000).

[79] Cable Datacom News, *Commercial Cable Modem Launches in North America*, http://cabledatacomnews.com/cmic/cmic7.html. Jones Intercable, which was later acquired by Comcast, began offering cable modem service in Alexandria in 1996. *See* M. Mills, *Bell Atlantic Joins the Internet Access Party Line*, Wash. Post at C01 (July 30, 1996).

[80] Cable Datacom News, *Commercial Cable Modem Launches in North America*, http://cabledatacomnews.com/cmic/cmic73.html. Adelphia began providing cable modem service in March 1998. M. Clothier, *High-Speed Internet Access Offered; Cable Modems Now Available*, Roanoke Times & World News at NRV2 (Mar. 21, 1998).

[81] *Community Networks Targets Smaller Cable Systems* (Apr. 7, 1997), http://www.ee.surrey.ac.uk/Contrib/Edupage/1997/04/13-04-1997.html; S. Schafer, *Board Approves Cablevision Sale after Companies Agree to Terms*, Wash. Post at V01 (Oct. 21, 1999).

[82] Q7 Group, Inc., *The Q7 Group, Inc. is the Exclusive Media Rep for WNVT*, http://www.q7web.com/wnvt/reach.htm. Adelphia acquired Prestige Cable in 2000. *See* M. Farrell, *Adelphia Bulks Up with Va. Cable Buys*, Multichannel News at 46 (June 19, 2000).

[83] *Adelphia to Buy More Cable Systems in Virginia*, Sky Report Headline News (June 14, 2000), http://www.skyreport.com/skyreport/jun2000/061400.htm

[84] J. Poindexter, *Tired of Web Ebb?*, Roanoke Times & World News at B6 (Oct. 24, 1996).

[85] S. Brown Kelly, *Online on Cable; Cox Communications Isn't Just for TV Lovers Anymore. It Has Started Connecting with Internet Fans, Too*, Roanoke Times & World News at 1 (July 16, 2000) (quoting David Burke, general manager of Charter Communications-Bedford).

[86] V. Sinha, *Cox Communications Works to Upgrade to Digital Cable*, Virginian-Pilot at D1 (Feb. 3, 2001).

[87] Cable Datacom News, *Commercial Cable Modem Launches in North America*, http://cabledatacomnews.com/cmic/cmic73.html.

[88] *Cable TV Firms Rollout High-Speed Internet Access with More Nodes*, Quad-State Bus. J. at 17 (Nov. 2000).

51. DSL providers are expected to provide competitive voice services in the near future.[89] There are at least ten CLECs in Virginia that are providing DSL services using unbundled loops. As of the end of December 2001, Verizon has provisioned approximately 20,000 unbundled xDSL and ISDN loops.

52. Two-way broadband satellite technology also competes directly with terrestrial facilities. In late 2000, two satellite providers – StarBand and Hughes – began providing two-way broadband services that offer comparable functionality to DSL and cable modem service. These new services are still priced slightly higher than most cable modem and DSL offerings, however, broadband satellite prices have already begun to decline,[90] and are expected to decline further in the near future.[91]

53. In addition to the cable companies and other broadband providers addressed above, competition also is increasing from alternatives sources such as mobile wireless, IP telephony, e-mail, and instant messaging. None of this extensive competition is counted in the line counts or other competitive totals discussed above. Nonetheless, this competition is substituting for a large and increasing share of the local telephone services that Verizon provides.

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[89] *See* D. Paiste, "*It's the Content*," Union Leader (Apr. 23, 2001) (quoting Morgan Stanley analyst Michael Lynch: "[W]e continue to believe that voice over DSL (VoDSL) will be a 'killer application' delivered as part of a broadband service offering."); E. Blackwell, *Reality Walks In*, Broadband Week at 1 (Apr. 16, 2001) (quoting Jason Marcheck, DSL analyst with The Strategis Group: "In the second half of 2001, you're going to see some movement with VoDSL. . . You're going to see some rollouts and some success stories."); The Strategis Group Press Release, *Market Downturn to Leave U.S. Fixed Wireless Market Unfazed, Says The Strategis Group* (Apr. 25, 2001).

[90] *See, e.g.*, G. Keizer, *The Broadband Breakdown*, CNET News (Oct. 2, 2001), http://www.cnet.com/internet/0-3762-8-7287680-1.html (EarthLink, which resells DirecPC two-way service, recently ran a special promotion offering $300 off equipment and installation).

[91] Y. Noguchi, *Slow to Take Off; Internet Service Via Satellite Remains an Expensive Choice*, The Washington Post (Aug. 8, 2001) ("[T]he cost difference will diminish as the price of equipment drops and satellite companies start transmitting on a more efficient frequency, which will further reduce transmission and equipment costs."); V. Pilieci, *Rural Residents Can Get High-Speed Internet Now: The Catch? Satellite Service Is Pricey*, Ottawa Citizen (July 3, 2001) ("[A]s companies start to produce and market satellite technologies the price will come down, making tiny satellite dishes a regular fixture on people's homes within the next 10 years."); S. Williams, *Aiming High*, Newsday (Apr. 4, 2001) (John DiDio, Pegasus Express: "The market will force all of us to be competitive . . . I expect prices and monthly fees will drop as we get going."); M. Hernon, *Broadlogic Speaks Out On Satellite Delivered Broadband*, Broadband Networking News (Jan. 2, 2001) (Toby Farrand**,** president and CEO, Broadlogic Networking Technologies: "With satellite, the cost is consistent with services like digital cable or DSL. We are in the learning curve so satellite tends to be 10 to 20 percent more expensive. But over time that will converge. Costs are coming down very rapidly.").