

BROADBAND SERVICES MARKET TRACK

DECEMBER 2005

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Broadband Services Market Track is a quarterly research report that examines the growth of consumer and small business DSL and cable modem services. The report looks at the ongoing price and promotional changes of broadband providers as they try to improve market share, and uncovers emerging trends within the industry, such as content partnerships and bundling broadband with voice and television programming packages. In addition, Market Track profiles ten leading high-speed Internet access providers, and assesses each provider's strengths and weaknesses. Finally, the report provides analysis of important details about the broadband industry, such as each provider's claim of market share, historic pricing trends, and those providers best positioned to capture new subscribers.



BRUCE MCGREGOR

ANALYST, DIGITAL HOME SERVICES

www.currentanalysis.com/digitalhome

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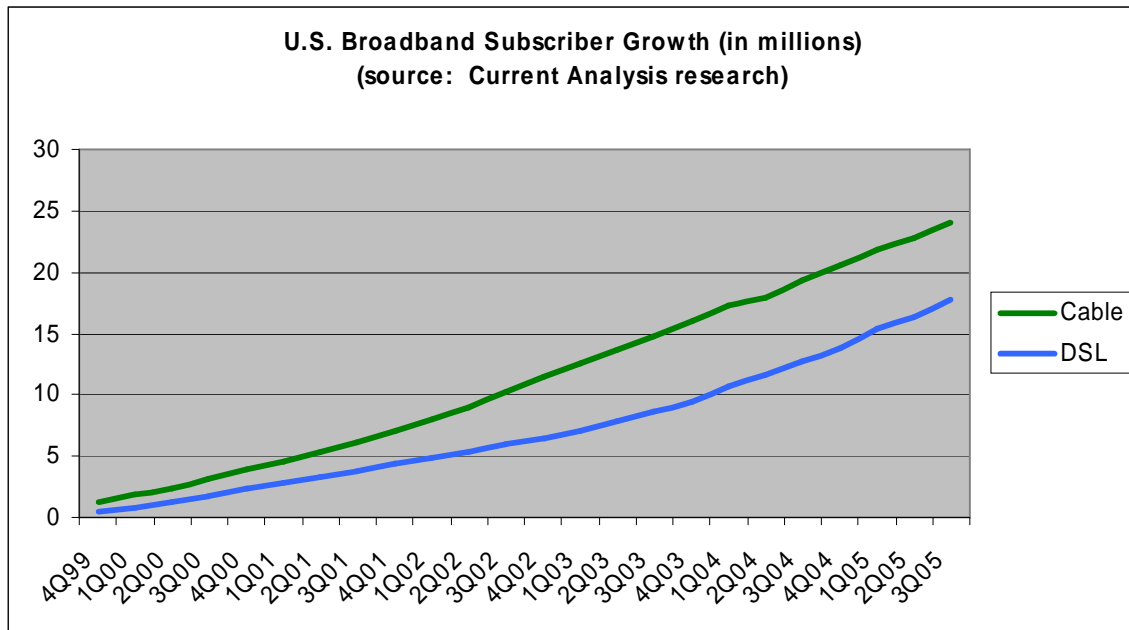
Time Warner Cable Road Runner

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1. Executive Summary

MARKET OVERVIEW – Quarterly broadband growth for Q3 2005 was 7.1%. By the end of Q3 2005, 2.77 million estimated net new subscribers adopted DSL or cable modem services, for a total of 41.94 million broadband subscribers in the U.S. From Q3 2004 to Q3 2005, U.S. annual subscriber growth was 25.7%, with the addition of 8.57 million DSL and cable subscribers. More than half of U.S. Internet households now access the Web via a broadband connection. Subscriber growth has been slowing gradually, and providers have become more aggressive with promotions to win new customers. The rapid growth from early adopters is ended, and now broadband providers have to try to convince existing subscribers to switch to their service and attract the remaining laggard dial-up users. Many are offering lower prices, primarily by discounting initial months of service. There is still a large pool of dial-up customers to up-sell to broadband. For example, the largest domestic dial-up provider, America Online (AOL), has more than 14.7 million customers paying for a narrowband connection at the high price of \$23.90 a month. Broadband has successfully lured experienced PC users, but now the challenge is to attract consumers that use their computers for light Web surfing and e-mail. Broadband-oriented content like video streaming, downloading music, and using digital cameras to share photos online are examples of applications that encourage broadband adoption among consumers, and the use of these applications is increasing. On the small business front, there is an increase in employees working from home who require a high-speed Internet connection. For the short-term, broadband growth hinges on low prices, as customers are always on the lookout for a better deal - the best offer around is Verizon Online DSL with Yahoo! for an eye-popping \$14.95 a month. Phone companies and cable companies alike are stretching their range of services to increase value per subscriber and counteract any declines in their respective core user bases, dialtone and basic cable TV. Consumers are responsive to bundled pricing because they feel like they're getting more for less. Consumers are likely to go to one provider for multiple communications services because they want a bargain, as well as simplicity in managing their services.

Broadband service of some sort (i.e., cable, DSL, or satellite) is available to more than 90% of the consumer market, but despite widespread availability, carriers have exhausted the pool of early adopters and power users. Broadband service providers need to find ways to entice the average subscriber to trade their \$10-25 per month dial-up service, which can include free Web acceleration software for greater speed, for an on-average \$36 per month high-speed Internet service. Cable providers have held onto the majority of broadband subscribers, serving 57.5% of the market. DSL providers, anxious to grab a larger share of broadband subscribers, have launched aggressive pricing and promotion initiatives and are making substantial quarterly gains on cable. Cable providers are trying to avoid reducing prices, and instead have boosted download and upload speeds for no additional cost to add more value while preserving their profit margins.



MARKET SIZE – The nationwide broadband market with cable and DSL stood at 41.94 million subscribers (as of September 30, 2005), a 25.7% increase from the previous year. Cable providers continue to dominate the industry with more than 24 million subscribers, controlling 57.5% of the market, although that position is down from a high of 70% back in 1999. Comcast is the largest domestic broadband provider with more than 8.14 million subscribers – roughly 19.4% of the broadband market.

DSL is slowly but steadily catching up with cable, with more than 17.84 million total subscribers and 42.5% market share. DSL's overall quarterly growth rate has edged out cable since Q2 2003. In Q3 2005, overall cable modem quarterly growth was 5.6%, while DSL saw 9.1% growth. AT&T (still SBC in Q3 2005) has established itself as the DSL leader with more than 6.49 million subscribers from its local business, not counting an as-yet unspecified number of DSL subscribers brought on board by the acquisition of AT&T's national long-haul business in November 2005. Overall, the third quarter was a strong one, seeing 189,700 more subscribers added compared to Q3 2004, which makes it the highest quarter for new subscribers of the last four quarters.

CONSUMER PRICING TRENDS – Consumer broadband Internet service rates have fallen from their highs in 2001, with DSL now to a small degree less expensive than cable. Cable broadband service prices increased slightly, by 2% on average in Q3 2005, from an average of \$36.30 a month at the end of Q2 2005 to an average of \$37.04 a month at the end of Q3 2005. Standard ADSL monthly prices decreased by 5.8% over the same time period, from an average of \$35.80 at the end of Q2 2005 to an average of \$33.71 at the end of Q3 2005. These average prices include promotional incentives that take the form of free or discounted months of service (e.g., Comcast's offer of the first six months for \$19.95 per month). DSL providers' entry level pricing is most aggressive, while standard tier ADSL is close to cable prices.

BUSINESS PRICING TRENDS – Business broadband prices in Q3 2005 remained unchanged compared to the previous quarter for 3 Mbps ADSL or higher. Business SDSL prices also did not change substantially in the third quarter. There were small increases in 384 kbps SDSL by an average of \$1.25 a month and IDSL business prices increased by about 80 cents a month.

BROADBAND PROMOTIONS – On a positive note, for first-time high-speed Internet buyers, broadband providers continue to offer various promotional incentives to new subscribers. On average, in the third quarter, 58.6% of the nation's consumer broadband providers offered new customers some form of installation promotion, be it a rebate for installation charges, free installation, or some type of self-installation kit; 61.3% of providers offered discounts on the initial months of service; and 52% of providers offered equipment rebates. During the third quarter, on average, about 32% of providers offered greater incentives for ordering broadband online through their Web sites.

On the business broadband side, 52.3% of providers offered monthly discounts, 50.6% offered equipment rebates and discounts, and 71.3% offered service installation discounts.

2. Subscriber Growth & Provider Market Share

At the end of Q3 2005, the U.S. broadband market (DSL and cable modem) stood at approximately 41.94 million subscribers, a 7.1% increase from the end of the previous quarter. Cable providers continue to dominate the industry with 24 million subscribers, a 57.5% share of the broadband market of all broadband subscribers, although that position has decreased from a high of 70% in 1999. Of the six major DSL providers (Verizon, AT&T (SBC), BellSouth, Qwest, Sprint, and Covad), AT&T's SBC Yahoo! service has established itself as the DSL market leader, with more than 6.49 million subscribers. The broadband market is now dominated by large incumbent service providers, and the ten largest providers (six cable and four DSL) serve about 86.6% of the nation's DSL and cable modem subscribers. Comcast, the nation's largest broadband provider, now has 8.14 million broadband Internet customers, and a 1.64 million subscriber lead over its closest competitor, AT&T (which was still SBC Communications in Q3 2005). As the largest DSL provider and second largest broadband provider, SBC Yahoo! service experienced 38.8% annual growth, with more than 1.81 million net subscriber adds from Q3 2004 to Q3 2005.

DSL providers collectively grew their customer bases at a faster clip than cable for the tenth consecutive quarter. Cable providers increased their combined subscriber base by 5.6%, while DSL carriers increased their customer bases by 9.1%. This shows that DSL price cuts (most notably from AT&T's local services and Verizon) have had a positive impact on DSL subscriber growth. Despite continued gains by DSL providers, cable still holds a sizable majority of the total broadband market. If DSL providers keep prices where they are and continue to offer attractive promotional incentives, cable's dominant market share could be in jeopardy. Cable providers are hesitant to lower prices over the long-term, but have introduced discount pricing for the initial months of service and increased their speeds at no additional charge, prompting some DSL providers to respond by also raising their speeds without increasing their rates. For example, in November 2005, BellSouth doubled the speed of its top tier DSL service to 6 Mbps downstream and 512 kbps upstream for \$46.95 a month to counter cable providers like Cox, Comcast, and Time Warner, which were raising their download speeds to between 6 Mbps and 9 Mbps. In December 2005, AT&T introduced a SBC Yahoo! small business 6 Mbps/608 kbps DSL service for \$64.99 a month (\$49.99 a month introductory pricing), addressing the same market niche inside its 13-state local service territory.

Third Quarter 2005 Broadband Subscriber Growth & Market Share				
CABLE PROVIDERS	3Q05 Share	Total 3Q05	Added 3Q05	% Added
Comcast	19.4%	8,142,000	437,000	5.7%
Time Warner Cable	11.4%	4,760,000	244,000	5.4%
Cox*	7.1%	2,996,438	150,000	5.3%
Charter	5.1%	2,120,000	97,800	4.8%
Adelphia	3.9%	1,646,000	84,000	5.4%
Cablevision	3.8%	1,600,434	80,570	5.3%
Bright House Networks**	2.7%	1,112,622	72,780	7.0%
Mediacom	1.1%	453,000	27,000	6.3%
Insight	1.1%	439,200	47,900	12.2%
RCN	0.6%	238,000	9,000	3.9%
Others	1.5%	587,692	31,251	5.6%
CABLE TOTALS	57.5%	24,095,386	1,281,301	5.6%
DSL PROVIDERS	3Q05 Share	Total 3Q05	Added 3Q05	% Added
AT&T (SBC)	15.5%	6,496,000	528,000	8.8%
Verizon***	10.8%	4,531,000	389,000	9.4%
BellSouth	6.4%	2,678,000	205,000	8.3%
Qwest	3.2%	1,340,000	150,000	12.6%
Sprint	1.5%	638,000	48,000	8.1%
Covad	1.4%	578,400	24,000	4.3%
Alltel	0.9%	359,975	40,660	12.7%
CenturyTel	0.5%	219,879	25,032	12.8%
Cincinnati Bell	0.4%	154,000	9,000	6.2%
Others	2.1%	849,763	70,935	9.1%
DSL TOTALS	42.5%	17,845,017	1,489,627	9.1%
TOTAL		41,940,403	2,770,928	7.1%

*Cox Communications became a private company in 2005 and since Q3 2005 does not disclose subscriber data.

**Bright House Networks, the former Advance/Newhouse, is a privately held company that does not publicly release subscriber data. The estimates for Bright House are in part gleaned from Time Warner Cable statements.

*** Verizon first quarter subscriber data includes DSL and FiOS (fiber optic-based services) subscribers.

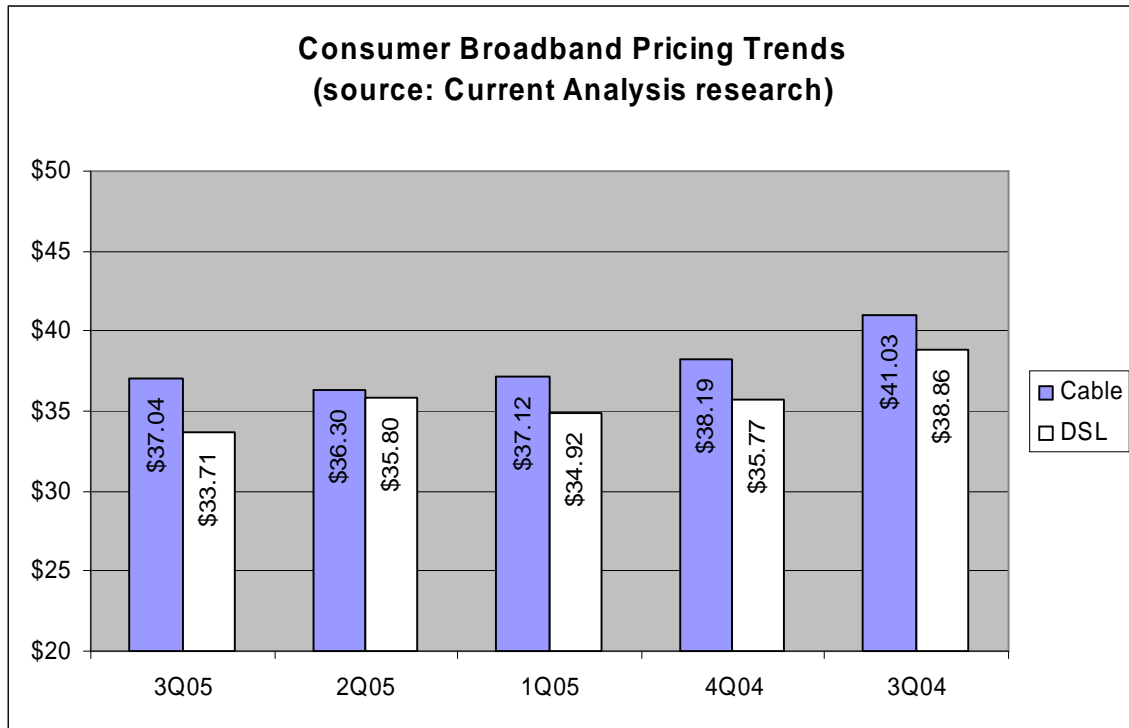
3. Broadband Pricing Trends

CONSUMER PRICING TRENDS – Consumer broadband Internet service rates have fallen from their highs in 2001, with DSL now to a small degree being less expensive than cable. Cable broadband service prices increased slightly by 2% in Q3 2005, from an average of \$36.30 a month at the end of Q2 2005 to an average of \$37.04 a month at the end of Q3 2005. Standard ADSL monthly prices decreased by 5.84% over the same time period, from an average of \$35.80 at the end of Q2 2005 to an average of \$33.71 at the end of Q3 2005. These average prices include promotional incentives that take the form of free or discounted months of service (e.g., Comcast’s offer of the first six months for \$19.95 per month). DSL providers’ entry level pricing is most aggressive, while its standard tier ADSL is close to cable prices.

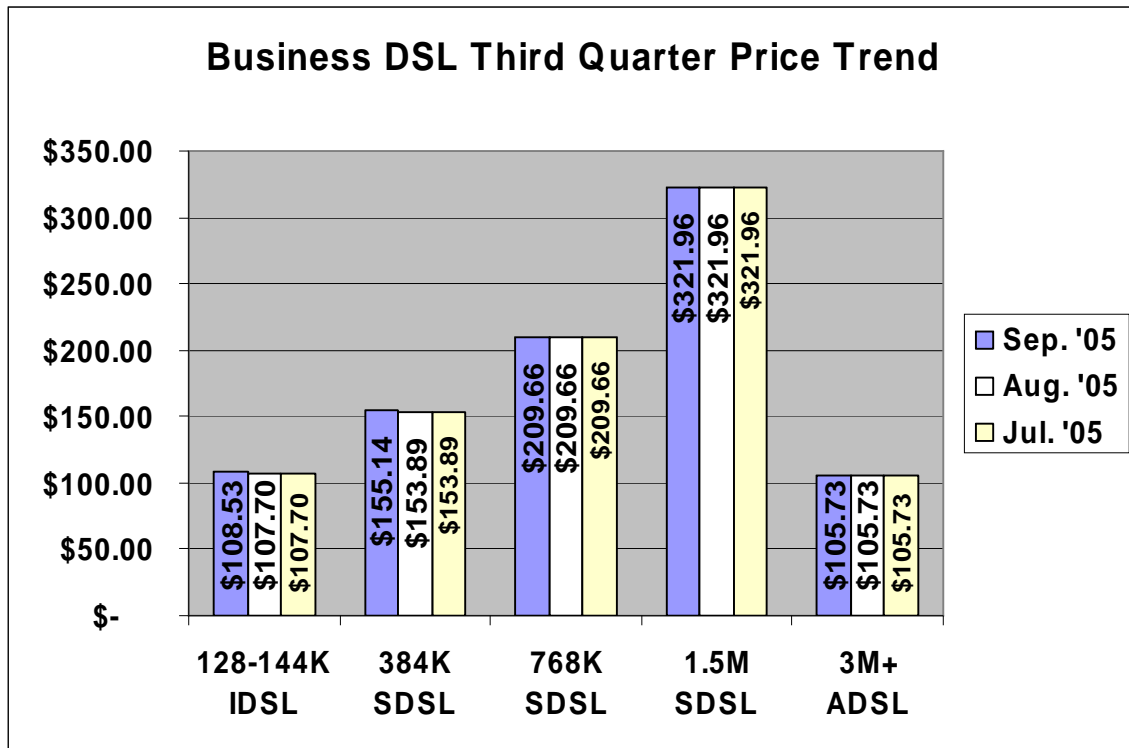
DSL providers are eager to gain market share and have been willing to set lower prices to build out their subscriber bases. Price cuts in 2005, by SBC Yahoo! DSL and Verizon Online DSL – the nation’s two largest DSL providers – have contributed significantly to making DSL less

expensive than cable broadband service. DSL providers have lowered the price for standard service, or introduced tiered service, at costs starting between \$20 and \$30 per month. These broadband price points are designed to entice dial-up subscribers, as it is close to what many consumers now pay for premium dial-up access from AOL, MSN, and EarthLink. Verizon Online DSL with Yahoo! draws interest to its DSL services with the industry's lowest price of \$14.95 a month, if the customer orders online and subscribes for a one-year term. BellSouth offers its FastAccess DSL service for as low as \$24.95 a month without an annual contract. In addition, in the summer and fall of 2005, AT&T offered its SBC Yahoo! DSL services for as low as \$14.95 a month as part of a limited time promotion; now the carrier's leading SBC Yahoo! offer is \$34.99 a month, with the first six months for \$16.95 a month.

The major cable providers have decided to increase download speeds instead of dropping prices, countering incumbent local exchange carriers' (ILEC) price cuts for their DSL services. Time Warner Road Runner, Comcast, and Cox are among those increasing their download speeds from the 1.5 Mbps to 3 Mbps range for standard service up to 4, 6, and even 9 Mbps. This is a tacit admission that cable providers won't lower their regular prices to compete with DSL. Instead, they are trying to convince consumers that by raising the download speeds, they are adding more value to their broadband offering. Unless subscribers are downloading huge files, the difference between Web surfing at 1.5 Mbps and 4 Mbps is negligible. Speed boosting is a marketing move to increase the perceived value of high-speed Internet service, but Comcast and the others are leaving themselves vulnerable to a DSL counterattack centered around lower prices that make the jump from dial-up less costly. At this time, it appears that the cable industry has no interest in getting into a price war with the DSL providers with the exception of reducing the monthly price for initial months of service. This tactic does make the annual average price (the first year of service) of cable modem service around the same price as DSL for its standard offerings. Cable companies, with the exception of Cox, have been opposed to offering an entry-level service.



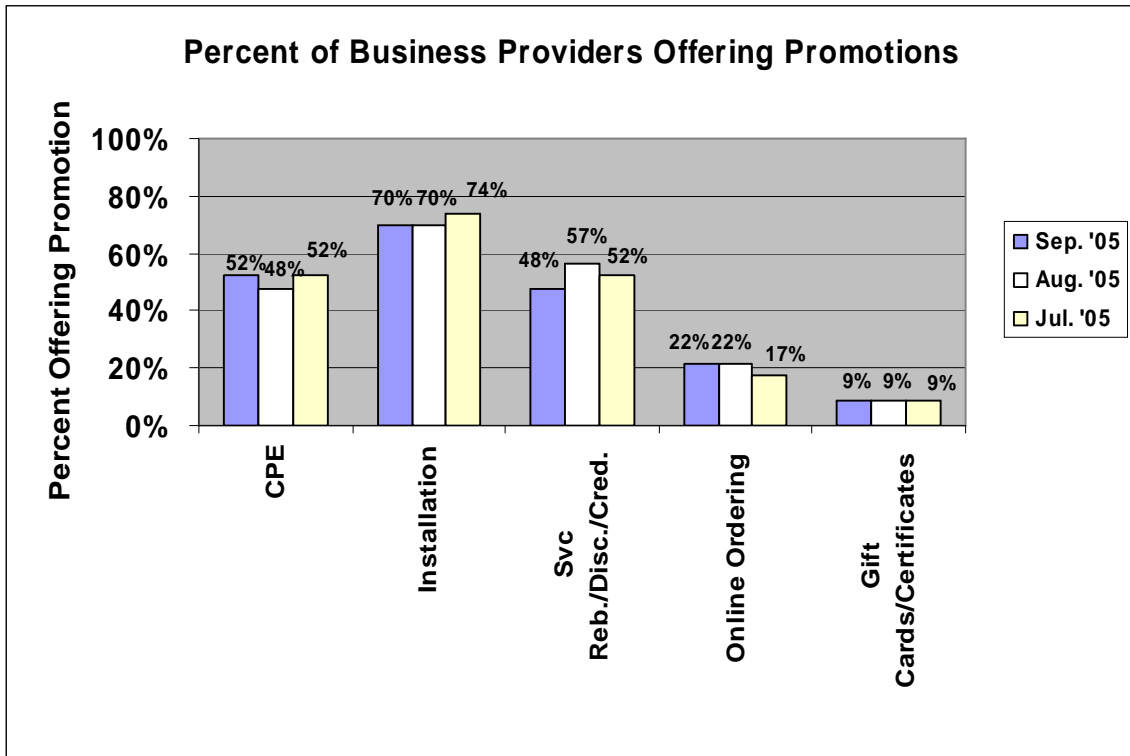
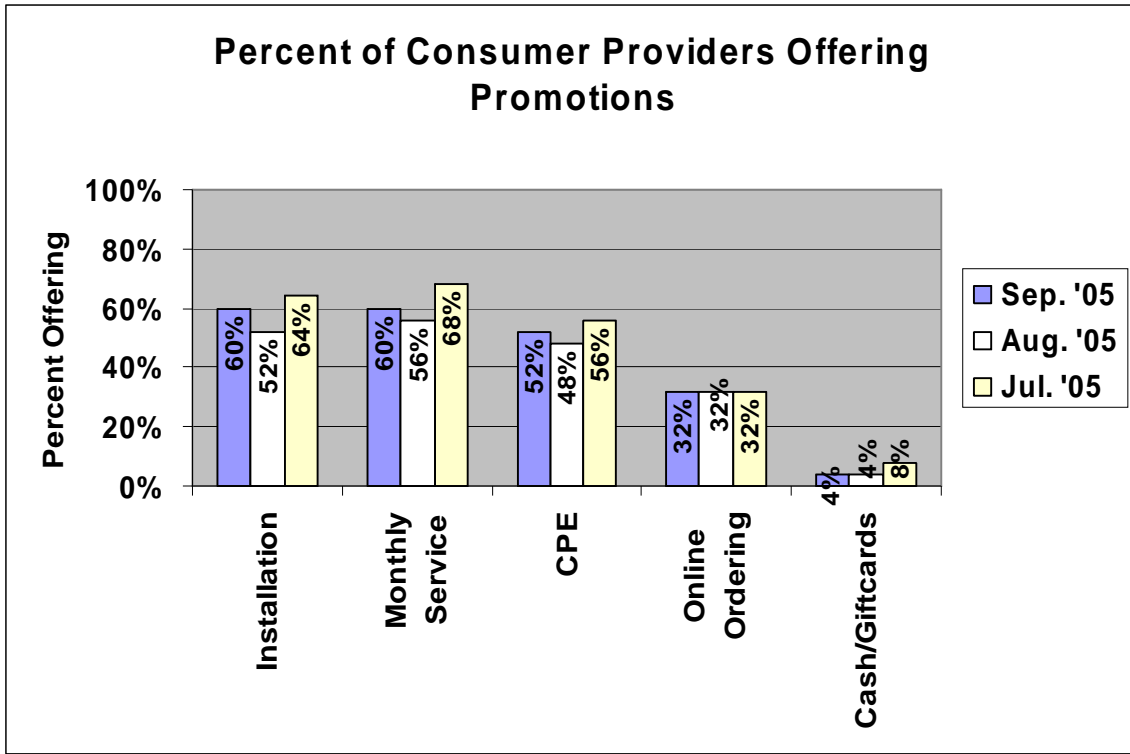
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4. Broadband Promotional Trends

On a positive note, for new high-speed Internet buyers, broadband providers continue to offer various promotional incentives to new subscribers. On average in the third quarter, 58.6% of the nation's consumer broadband providers offered new customers some form of installation promotion, be it a rebate for installation charges, free installation, or some type of self-installation kit; 61.3% of providers offered discounts on the initial months of service; and 52% of providers offered equipment rebates. During the third quarter, on average, about 32% of providers offered greater incentives for ordering broadband online through their Web sites.

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5. Broadband Product Trends

TIERED SERVICES

A growing number of broadband providers are offering customers tiered service options, where customers can purchase lower-speed broadband service for a lower monthly charge. Qwest, for example, offers a 256 kbps/256 kbps ADSL service for as low as \$26.99 a month. This trend gives the provider a greater chance to attract entry-level customers that are ready for the always-on features of broadband, but aren't willing to pay a big premium for higher speeds. Cable providers such as Charter, Cox, Comcast, and Time Warner Cable have also been offering higher tiers with faster download speeds, reaching from 6 Mbps up to 9 Mbps, to distinguish themselves from DSL rivals and attract power users who crave more speed for streaming video and gaming.

All four RBOCs have launched upper tiers of service with speeds of 3 Mbps and higher to keep their product portfolio equal to cable. Tiered services appeal to broadband shoppers because they offer more choices and give greater flexibility with price. Broadband tiers for lower-cost, entry-level services tend to attract more buyers as opposed to higher-priced, upper-tier services. Verizon, for example, offers two tiers of residential DSL services, priced as low as \$14.95 a month for Verizon Online DSL with Yahoo! (up to 768 kbps/128 kbps) and as low as \$29.95 a month for Verizon Online DSL with Yahoo! (up to 3.0 Mbps/ 768 kbps); both offers require an annual contract. The lower DSL discount prices in many cases require an annual contract and the purchase of a local wireline with extra incentives for bundling the service with long-distance packages or other added services.

Consumer Tiered Services				
Provider	Broadband Service	Downstream	Upstream	Price
Adelphia Cable	Power Link	4.0M	384K	\$42.95
	Power Link Premier	6.0M	768K	\$59.95
AT&T Consumer	DSL Service Standard Plan ADSL	1.5M	128K	\$39.95
	DSL Service Preferred Plan ADSL	3.0M	384K	\$49.95
BellSouth	Fast Access Lite ADSL	256K	128K	\$24.95
	Fast Access ADSL	1.5M	256K	\$32.95
	Fast Access Xtreme ADSL	3.0M	384K	\$42.95
	Fast Access Xtreme 6.0 ADSL	6.0M	512K	\$46.95
Charter	Pipeline Package	384K	156K	\$29.99
	Pipeline Package	3.0M	256K	\$39.99
Comcast	High Speed Internet	6.0M	384K	\$42.95
	8Meg	8.0M	768K	\$52.95
Covad	TeleSurfer PLUS ADSL	1.5M	128K	\$39.95
	TeleSOHO 1.5M ADSL	1.5M	384K	\$64.95
	TeleSOHO 3.0M ADSL	3.0M	768K	\$99.95
Cox Communications	Cox Value	256K	128K	\$24.95
	Cox Preferred	5.0M	768K	\$39.95
	Cox Premier	9.0M	1.0M	\$49.95
EarthLink	DSL	1.5M	128K	\$39.95
	DSL	3.0M	128K	\$44.95
Qwest	Choice DSL with MSN Premium	256K	256K	\$31.99
	Choice DSL Deluxe with MSN Premium 1.5M/896K ADSL	1.5M	896K	\$44.99
	Choice DSL Premier with MSN Premium 3-5M/896K ADSL	3-5M	896K	\$54.99
RCN	Value Modem	768K	256K	\$40.95
	MegaModem Mach 7	7.0M	800K	\$54.95
	MegaModem Mach 10	10.0M	800K	\$79.95
SBC Yahoo!	DSL Express Package	384K-1.5M	128-384K	\$34.99
	DSL Pro Package	1.5-3.0M	384-512K	\$39.99
	DSL Expert Plus	1.5-6.0M	384-608K	\$69.99
SpeakEasy.Net	Classic 768K/128K ADSL	768K	128K	\$39.95
	Classic 1.5M/384K ADSL	1.5M	384K	\$49.95
	Classic 1.5M/768K ADSL	1.5M	768K	\$79.95
	Classic 6.0M/768K ADSL	6.0M	768K	\$99.95
Sprint	FastConnect DSL Lite 256K/128K ADSL	256K	128K	\$34.99
	FastConnect DSL 1.5M/384K ADSL	1.5M	384K	\$44.99
	FastConnect DSL 3.0M/512K ADSL	3.0M	512K	\$59.99
	FastConnect DSL 5.0M/640K ADSL	5.0M	640K	\$69.99
Time Warner Cable	Road Runner 5M/384K	5.0M	384K	\$44.95
	Road Runner Premium 8M/512K	8.0M	512K	\$69.95
Verizon	Online DSL with Yahoo! or MSN (768K/128K)	768K	128K	\$14.95
	Online DSL with Yahoo! or MSN (3M/768K)	3.0M	768K	\$37.95

Business Tiered Services				
Provider	Broadband Service	Downstream	Upstream	Price
AT&T DSL	Standard 768K/128K ADSL	768K	128K	\$46.71
	Enhanced Internet 1.5M/384K ADSL	1.5M	384K	\$49.95
	Premium Internet 3.0M/384K ADSL	3.0M	384K	\$84.95
	Internet Multi-User 144K IDSL	144K	144K	\$149.95
	Internet Multi-User 192K SDSL	192K	192K	\$149.95
	Internet Multi-User 384K SDSL	384K	384K	\$199.95
	Internet Multi-User 768K SDSL	768K	768K	\$188.96
	Internet Multi-User 1.1M SDSL	1.1M	1.1M	\$244.96
BellSouth	FastAccess Business DSL Lite Up To 256K/128K ADSL	256K	128K	\$49.95
	FastAccess Business DSL Up To 1.5M/256K ADSL	1.5M	256K	\$79.95
	FastAccess Business DSL Plus Up To 3.0M/384K ADSL	3.0M	384K	\$89.95
	FastAccess Business DSL 6.0 Up To 6.0M/512K ADSL	6.0M	512K	\$109.95
Charter Bus. Networks	384K/128K	384K	128K	\$120.00
	512K/256K	512K	256K	\$140.00
	768K/256K	768K	256K	\$175.00
	1.5M/768K	1.5M	768K	\$275.00
	5M/1M	5.0M	1.0M	\$550.00
Comcast	Business WorkPlace Lite 4M/384K	4.0M	384K	\$60.00
	WorkPlace Standard 6.0M/768K	6.0M	768K	\$95.00
	WorkPlace Enhanced 8.0M/1.0M	8.0M	1.0M	\$160.00
Covad	TeleSOHO 1.5M/384K ADSL	1.5M	384K	\$59.95
	TeleSOHO 3M/768K ADSL	3.0M	768K	\$89.95
	TeleSOHO 6M/768K ADSL	6.0M	768K	\$109.95
	TeleSpeed 144K IDSL	144K	144K	\$129.95
	TeleSpeed 192K SDSL	192K	192K	\$129.95
	TeleSpeed 768K SDSL	768K	768K	\$159.95
	TeleSpeed 1.1M SDSL	1.1M	1.1M	\$219.95
Cox Communications	Business Services Internet 1.5M/384K	1.5M	384K	\$79.00
	Business Services Internet 3.0M/512K	3.0M	512K	\$109.00
	Business Services Internet 4.0M/512K	4.0M	512K	\$169.00
	Business Services Internet 1.5M/1.5M	1.5M	1.5M	\$399.00
EarthLink	Small Office 3.0M/768K ADSL	3.0M	768K	\$79.95
	Business 144K IDSL	144K	144K	\$129.00
	Business 192K SDSL	192K	192K	\$129.00
	Business 384K SDSL	384K	384K	\$159.00
	Business 768K SDSL	768K	768K	\$209.00
	Business 1.1M SDSL	1.1M	1.1M	\$249.00
	Business 1.5M SDSL	1.5M	1.5M	\$299.00
Qwest	Qwest Choice DSL 256K/256K ADSL	256K	256K	\$39.99
	Qwest Choice DSL Deluxe 1.5M/896K ADSL	1.5M	896K	\$52.99
	Qwest Choice DSL Premier 3-5M/896K ADSL	3-5M	896K	\$62.99
SBC Yahoo!	DSL Express Package	384K-1.5M	128-384K	\$49.99
	DSL Pro Package	1.5-3.0M	384-512K	\$54.99
	DSL Expert Plus Package	1.5-6.0M	384-608K	\$69.99
	DSL Symmetric 384K	384K	384K	\$89.99
SpeakEasy.Net	NetAdvantage 1.5M/256K ADSL	1.5M	256K	\$69.95
	NetAdvantage 1.5M/768K ADSL	1.5M	768K	\$99.95
	NetAdvantage 6.0M/768K ADSL	6.0M	768K	\$119.95
	NetAdvantage 192K SDSL	192K	192K	\$119.95
	NetAdvantage 384K SDSL	384K	384K	\$159.95
	NetAdvantage 768K SDSL	768K	768K	\$209.95
	NetAdvantage 1.1M SDSL	1.1M	1.1M	\$249.95
NetAdvantage 1.5M SDSL	1.5M	1.5M	\$299.95	

Sprint	Business DSL Up to 1.5M/384K ADSL	1.5M	384K	\$149.99
	Business DSL 144K IDSL	144K	144K	\$149.99
	Business DSL 192K SDSL	192K	192K	\$149.99
	Business DSL 384K SDSL	384K	384K	\$199.99
	Business DSL 768K SDSL	768K	768K	\$269.99
	Business DSL 1.1M SDSL	1.1M	1.1M	\$349.99
	Business DSL 1.5M SDSL	1.5M	1.5M	\$399.99
Time Warner Cable	Road Runner BusinessClassEnhanced 1.5M/768K	1.5M	768K	\$192.50
	RR BusinessClass Enhanced Plus 3M/768K	3.0M	768K	\$247.50
	RR BusinessClass Expanded 1.5M/1.5M	1.5M	1.5M	\$385.00
	RR BusinessClass Expanded Plus 3M/1.5M	3.0M	1.5M	\$467.50
	RR BusinessClass Enterprise 4M/2M	4.0M	2.0M	\$550.00
	Online DSL Business Basic 768K/128K ADSL	768K	138K	\$24.95
Verizon	Online DSL Business Basic 3.0M/768K ADSL	3.0M	768K	\$39.95
	Online DSL Business 3.0M/768K ADSL	3.0M	768K	\$59.95
	Online DSL Business 7.1M/768K ADSL	7.1M	768K	\$204.95
	Online DSL Business SHDSL 192K	192K	192K	\$129.95
	Online DSL Business SHDSL 384K	384K	384K	\$149.95
	Online DSL Business SHDSL 768K	768K	768K	\$199.95
	Online DSL Business SHDSL 1.1M	1.1M	1.1M	\$249.95
	Online DSL Business SHDSL 1.5M	1.5M	1.5M	\$299.95

BUNDLED SERVICE OPTIONS

Bundling voice and video with high-speed Internet has become a common trend in the broadband industry. Both cable and DSL providers are getting savvy at combining high-speed Internet with other services in their respective product sets, such as digital cable or satellite TV, local and long-distance voice service, and wireless. Cable providers typically bundle cable Internet service with digital cable television in packages that give consumers a price break over what they would pay if they subscribed to the same services separately. Cable providers are also increasingly launching bundled voice services on their networks, using either traditional circuit-switched technology or voice over Internet protocol (VoIP) dialtone, which has quickly emerged as the alternative to traditional voice service.

Cable providers Comcast, Cablevision, Cox, and Time Warner Cable offer cable telephone service, although Cox has by far the most experience bundling telephone service with its video and data services to create the much-vaunted “triple play.” Comcast does not really bundle its cable telephone, video, and data services in a manner that provides significant cost savings to the consumer; instead, it raises the price of standalone broadband service – as high as \$57.95 per month excluding cable modem rental. This is a punishment for high-speed Internet subscribers that don't bundle Comcast's video and/or telephone services. After a year of delay, Comcast has launched its VoIP service with 16 million homes capable of voice service by the end of Q3 2005. Comcast plans to add the remaining 25 million homes passed by the end of 2006. In the New York metro area, on the other hand, cable provider Cablevision has already launched cheap “double play” and “triple play” bundled promotions, priced at about \$60 and \$90 a month, respectively, for the first year of service. Cablevision's \$90-per-month triple play promotion effectively gives its VoIP phone service away free of charge for one year to customers bundling its video and high-speed Internet services, taking on phone incumbent Verizon. Cox Communications, a pioneer in offering telephone service, jumped into offering cable telephony as early as 1997 in its Orange County market. Cox is the second-largest dialtone provider in many of the states where it offers telephone service. In Q4 2005, Cox launched its Digital Telephone service in Las Vegas; Macon, GA; central and Gulf Coast of Florida; and Topeka, KS, increasing its voice coverage to 22 markets – 70% of Cox's total network. In select markets, Time Warner Cable offers value pricing to bundle digital cable TV, Road Runner, and Digital Phone under its DIGIPic brand of bundle packages. For example, in San Diego, Time Warner Cable offers its DIGIPic 1000 Trio Package, which includes digital TV with one premium movie channel, Road Runner, and Digital Phone for \$129.95 a month, a savings of more than \$14 a month.

On the DSL side, all four major incumbent local providers and the large independent LECs (e.g., Sprint and Alltel) have rolled out packages that bundle DSL with local and long-distance, as well as wireless voice services. For example, more than 67% of AT&T's consumer incumbent local carrier voice customers now subscribe to one or more additional key AT&T services, which can include long-distance, SBC Yahoo! DSL, Cingular Wireless services, and DISH satellite video. BellSouth offers its Answers bundle packages to consumers with up to \$125 cash back for subscribing to its FastAccess DSL, DIRECTV satellite TV service, unlimited long-distance, and Cingular Wireless services. The largest incumbent phone companies have entered the video market by adding satellite TV to their bundles through partnerships with DIRECTV for BellSouth, Qwest, and Verizon, and with EchoStar for AT&T. Verizon offers a triple play of its Freedom unlimited local and long-distance calling package, 3 Mbps/768 kbps DSL, and DIRECTV for the bundled price of \$96.89 a month.

These bundles typically offer consumers a price break for each service they choose to bundle. The benefits of bundled services to broadband service providers are fairly obvious – higher average revenue per user (ARPU), reduced customer churn, increased market share across multiple product lines, and customer acquisition costs that can be spread over several products. The incumbent local telephone carriers, for example, use DSL to slow down the erosion of their access lines, since in almost all cases they require broadband customers to also buy telephone dialtone. The telephone companies give more incentive for their local access line customers to bundle by linking their phone services to other services like DSL and satellite TV. Cable providers, by comparison, are working to retain their customers by bundling broadband with video, and through the introduction of voice services.

CONTENT PARTNERSHIPS

To get fast traction in the marketplace, some leading broadband providers are getting help from established, well-branded Internet content providers. Many residential broadband carriers have realized that their strength is in providing access rather than content. By teaming with Internet portals such as Yahoo! and MSN, broadband carriers share customer acquisition costs in exchange for a cut of the revenue, while the consumer Web portal adds premium content such as personal Web page space, photo sharing, streaming video clips, and client software to protect subscribers from e-mail spam and computer viruses. AT&T has benefited greatly from its partnership with Yahoo!, reaching record highs in acquiring new SBC Yahoo! DSL users to become the second largest domestic broadband provider. The Yahoo! brand and low pricing have helped propel AT&T to become a broadband market leader, with high consumer brand recognition and Yahoo! features and content. In August 2005, Verizon copied AT&T (then SBC) and started offering its DSL subscribers Yahoo! services at no extra cost. Yahoo! Music is now linked to the two top DSL providers for a small fee of \$4.95 a month. BellSouth has followed suit by announcing a similar partnership with Yahoo! to launch sometime in late 2006. The largest domestic broadband provider, Comcast, has taken a different strategy by partnering with several small niche content providers including CNBC, Disney, and FoxSports.com while offering premium content that includes streaming video on a portal site under its own brand name. Charter Communications has taken a two-tier approach for offering content to its Pipeline Internet subscribers. Charter's entry level of content consists of basic free content such as news, sports, entertainment, weather, and e-mail Web access. Charter's premium content tier for consumers, called High-Speed Plus, is offered for an additional \$7.99 a month and offers content from Movielink, AmericanGreetings.com, Clever Island, CNN NewsPass and CNN Now, Encyclopedia Britannica, MLB.com, Shockwave.com, GameBlast, and weather.com. The company also offers Charter Music, a pay music subscription service with a library of 1,000,000 songs for an additional \$7.99 a month through a partnership with MusicNet.

In November 2005, America Online and Warner Bros. Domestic Cable Distribution announced that AOL will launch a service dubbed In2TV early next year, which will give any visitors to the AOL site access to full-length episodes of TV series from the past streamed on the AOL Web site

for free. The new service will also provide interactive games, quizzes, and polls related to the TV programs. In2TV will be organized into six channel categories: LOL TV, Dramarama TV, Toontopia TV, Heroes and Horrors TV, Rush TV, and Vintage TV. In2TV will provide AOL's 110 million monthly unique users video streaming of full-length episodes in DVD quality video called AOL Hi-Q from TV series such as "Welcome Back, Kotter," "Sisters," "Beetlejuice," "Lois & Clark," "La Femme Nikita," and "Growing Pains." The programming will be searchable by show titles and cast names, organized in six category channels for easy navigation. Currently available, consumers can download popular movie rentals on the Web and view them through their PC, downloading them from other independent sites such as MovieLink and Starz! Ticket for a small fee.

Online music has gone through an evolution of being widely copied and distributed without permission through peer-to-peer services such as the original Napster and Grokster, to being sold through authorized music download sites such as Yahoo! Music Unlimited, the new Napster, Rhapsody, and Apple's iTunes. Music is sold per song for 99 cents or with a monthly membership as low as \$5 a month for unlimited access to more than 1 million tracks. The shift from unauthorized music sharing online to having content owners in control comes from the U.S. government crackdown and the failure of peer-to-peer file sharing companies to win their appeals in the courts. The iPod has made Apple a major part of digital home entertainment, as it accounts for more than 80% of the MP3 player market share, and its users utilize broadband access to download music and videos. In December 2005, RealNetworks launched Rhapsody.com, which offers a free site to play full-length songs or albums from a library that includes all major record labels via streaming. Non-members can stream up to 25 on-demand songs per month, while Rhapsody subscribers can stream an unlimited amount starting at \$9.99 a month.

VOIP POPULARITY GROWS

As providers like AT&T and Vonage roll out residential voice over IP (VoIP) services that are available only via a broadband connection, customers will probably become more interested in a new type of bundle – a VoIP/broadband package – that doesn't require the customer to buy a local voice line to qualify for a DSL connection, for example. VoIP won't necessarily drive vast numbers of customers to adopt broadband just so they can get VoIP dialtone, but it's a new service generating lots of buzz. As of September 2005, Vonage passed 1 million lines in service for its VoIP phone service. This is the first time an independent broadband telephony provider reached this number of subscriber lines in North America. The privately held company beats the traditional phone companies and cable providers' new VoIP offerings on price, with service plans like its popular unlimited domestic calling package for only \$24.99 a month. The Achilles' heel of Vonage service is that consumers must first have broadband access, which limits the size of the market it can sell to. America Online launched its TotalTalk consumer PC-to-PC and dialtone VoIP service to the U.S. market in October 2005. The service integrates VoIP with calling features, converged voice mail, e-mail, and AOL's Triton instant messaging client (currently in beta). Calling features controlled via a Web interface include call waiting, caller ID, 911 support, and three-way calling. Three service tiers are available: Local is \$18.99 a month, Unlimited Domestic Calling is \$29.99 a month, and Global Calling is \$34.99 a month. AOL should have provided some sort of VoIP bundle price incentive for its ISP customers, but it failed to do so. AOL's TotalTalk dialtone VoIP service is too expensive, rivaling in cost the likes of CallVantage, which offers service under the far more prestigious AT&T brand name. However, VoIP is still in its early stages, with only 4% of the residential market using IP telephony and more than 60% of Americans oblivious about the new technology.

The PC-to-PC VoIP/instant messaging (IM) software market has leaped from obscurity to hyper-competition in 2005, with EarthLink and Skype among existing providers and Google, Yahoo!, MSN, and even Sony as new faces in the market. This emerging technology allows PC users to send text IM or establish computer-to-computer voice connections using microphones and speakers. Skype describes itself as the world's largest VoIP provider, and it is probably correct in

terms of users and calling minutes. Its current business model in some ways resembles United Online's Juno and NetZero dial-up Internet services – give away a basic core product free and up-sell subscribers to the premium added-value features. In Skype's case, these features include SkypeOut (outbound PC-to-phone calls), Skype Voicemail, SkypeIn (a feature still in development to assign inbound public telephone numbers to Skype users), and SkypeZones (WiFi access to Skype, still in development, through an alliance with Boingo Wireless). For domestic consumer telecom voice competitors, Skype will not do much more damage above the havoc already wrought by wireless, e-mail/instant messaging, and dialtone VoIP. Skype is most threatening as a free PC-to-PC VoIP calling alternative along international routes, where per-minute calling rates still have some bite. Internet e-commerce specialist eBay acquired VoIP provider Skype Technologies for at least \$2.5 billion – \$1.3 billion in cash, 32.8 million shares of eBay stock, and up to \$1.5 billion in cash or stock based on Skype's future performance. Skype says it has 59 million members globally and adds 150,000 users a day. eBay intends to build complementary businesses, such as integrating Skype into its eBay marketplace to connect buyers and sellers with VoIP and connecting leads to agents representing other eBay Web sites, such as Shopping.com and Rent.com. In August 2005, Microsoft announced it acquired the privately held software company, Teleo, to ramp up MSN's voice services with advanced VoIP applications in future releases of MSN services. The MSN consumer Web portal needs new voice applications for its MSN Messenger service to stay competitive with rivals. In October 2005, MSN and Yahoo! decided they would offer open access to members between their respective IM services, although this agreement doesn't yet apply to their PC-to-PC voice services. This interoperability agreement will create a global community of MSN Messenger and Yahoo! Messenger users that will form what is likely to be the largest global consumer IM community, estimated by the companies at more than 275 million strong, but not until sometime in Q2 2006. Google's new instant messaging (IM) and voice service, called Google Talk, is available to Google's e-mail subscribers (Gmail) for no additional charge. Google is attempting to branch out beyond Web search into popular portal applications to drive up advertising revenues. Google Talk is a "clean-looking" IM service without ad banners and can be used for voice conversations next door or internationally. But Google will have difficulty being the fourth major entry into the IM market, and Google Talk users will only be able to connect with other Google Talk users.

6. Service Provider Profiles & Analyses

BellSouth		
Subscriber Data	Q3 2005	Q2 2005
<i>Total Voice Lines</i>	20,446,000	20,800,000
<i>DSL Subscribers</i>	2,678,000	2,473,000
<i>DSL Subscribers Added</i>	205,000	124,000
<i>DSL Subscriber Growth</i>	8.3%	5.3%
<i>Broadband Market Share (Rank)</i>	6.4% (6 th)	6.3% (6 th)

BellSouth's suite of FastAccess DSL packages is threatening to competitors because the company offers something for everyone. The carrier reported its third quarter results with the addition of 205,000 DSL subscribers for a total of 2.67 million and achieved 17.1% penetration of DSL qualified lines. BellSouth offers four consumer DSL packages that will appeal to everyone from dial-up subscribers who want something faster, but don't want to double the monthly cost, to bandwidth junkies that want the fastest speeds available. In July 2005, BellSouth adopted one residential DSL price for each of its tiers of DSL services. New residential customers receive FastAccess DSL Lite (up to 256 kbps/128 kbps) for \$24.95 a month, FastAccess DSL (up to 1.5 Mbps/256 kbps) for \$32.95 a month, and FastAccess DSL Xtreme (up to 3 Mbps/384 kbps) for \$42.95 a month. In November 2005, BellSouth launched FastAccess DSL Xtreme 6.0, offering twice the download speed of its previous fastest service – up to 6 Mbps downstream and up to

512 kbps upstream speeds for \$46.95 a month. Online BellSouth FastAccess DSL orders receive a free modem with a one-year commitment and online order plus \$50 cash back or a discount to purchase an HP computer. In October 2005, BellSouth and Yahoo! announced a strategic partnership to co-brand BellSouth's FastAccess DSL service. The new DSL offering with Yahoo! features and content will be launched in late 2006, and it will be available to all residential DSL tiers of service at no additional charge. The carrier offers six business DSL tiers with varying speeds up to 6Mbps downstream to meet the different needs of small business customers with the option of a static IP address; the carrier's DSL service is now available to more than 80% of the broadband market in the company's Southeastern U.S. service territory, and it has DSLAM capacity to about 3,100 sites. BellSouth uses the Westell VersaLink Gateway with its FastAccess Broadband DSL with HomeNetworking Plus service. The device is a combination DSL modem and multi-port router with 802.11g wireless networking, which also incorporates enhanced quality of service (QoS) features, physical layer troubleshooting, and configuration screens for customer self-installation. BellSouth's Internet Security suite for its residential and small business FastAccess DSL subscribers includes anti-virus, anti-spyware, and firewall protection. BellSouth's Answers bundle packages continue to be successful among small business and residential customers, with more than 42% penetration of retail primary lines including long-distance, Internet, Cingular Wireless, or DIRECTV satellite TV service.

As with all DSL services, BellSouth's FastAccess packages are "best effort," meaning the company can't guarantee the downstream speeds customers will receive, and BellSouth's prices (within a FastAccess DSL tier) don't vary based on the actual downstream speed they receive. For example, FastAccess DSL Ultra (up to 1.5 Mbps/256 kbps) customers pay the same price whether they actually get 1.5 Mbps or 768 kbps (or less). The carrier does have a DSL service with symmetrical downstream and upstream bandwidth, its FastAccess Business Speed 384 (384 kbps/384 kbps), but the service is provided over rate-limited ADSL circuits and is not a true, business grade SDSL service. Compared to the industry average, BellSouth's FastAccess Business Speed 384 is expensive at \$199.95 a month, and even its entry-level FastAccess Business Lite 256 kbps/128 kbps ADSL price is steep at \$49.95 a month. BellSouth introduced a suite of security software for its FastAccess DSL subscribers, and while adding online security is a plus, it is unfortunate BellSouth requires an additional fee. Many other broadband providers like AT&T offer similar security software for free. So far, BellSouth has been inadequate at providing its FastAccess DSL subscribers options for content and applications that optimize the utility of its broadband connection. Now BellSouth is planning a partnership with Yahoo! to offer a wider selection of features and content, but the co-branded offer will not be available until late 2006. It is unclear why BellSouth and Yahoo! need more than a year to develop a BellSouth Yahoo! FastAccess DSL service, since it will be similar to services Yahoo! already offers today in partnership with AT&T and Verizon.

BELLSOUTH DSL STRENGTHS

- BellSouth offers four tiers of residential DSL service: BellSouth Fast Access DSL Lite, which provides speeds of up to 256 kbps/128 kbps for \$24.95 per month; BellSouth Fast Access DSL Ultra, which provides speeds up to 1.5 Mbps/256 kbps for \$32.95 per month; BellSouth Fast Access DSL Xtreme, which provides speeds up to 3 Mbps/384 kbps for \$42.95 per month; and BellSouth Fast Access DSL Xtreme 6.0, which provides speeds up to 6 Mbps/512 kbps for \$46.95 per month. The company offers these DSL prices without a bundle package requirement (aside from a BellSouth access line) and no annual contract.
- BellSouth currently offers six DSL packages specifically geared for business users. These packages differ from residential DSL in that they typically include a static IP address, a router, 15 e-mail addresses, backup dial-up accounts with unlimited usage, and optionally managed IP virtual private network service for site-to-site or remote access.

- More than 80% of BellSouth's 20.44 million access lines (residential, business, and wholesale) are broadband-capable, within the service reach of about 3,100 BellSouth central offices equipped with DSLAMs, and 16,000 DSL-enabled remote terminals.
- BellSouth has achieved 17.1% DSL penetration of qualified lines, as the company's DSL base increased by 205,000 subscribers in Q3 2005, with a total of 2.67 million subscribers.
- BellSouth's Answers bundle packages continue to be successful among small business and residential customers. These bundles have reached more than 42% penetration of retail primary lines, and include local and long-distance voice with the option of unlimited calling, Internet access, Cingular Wireless, and/or DIRECTV satellite TV service. Plus, BellSouth offers its Answers bundle packages with up to \$125 in cash back savings.

BELLSOUTH DSL WEAKNESSES

- As with all DSL, BellSouth's FastAccess DSL packages are best effort services. FastAccess Lite customers will pay the same regular price of \$24.95 per month whether they get downstream speeds of 144 kbps or 256 kbps, FastAccess Ultra DSL customers will pay the same \$32.95 per month whether they get downstream speeds of 384 kbps or 1.5 Mbps, and FastAccess DSL Xtreme customers will pay the same \$42.95 per month whether they receive downstream speeds of 1.5 Mbps or 3 Mbps.
- BellSouth's business DSL services are expensive. At \$199.95 a month, the FastAccess Business Speed 384, a 384/384 kbps rate-limited ADSL service, is significantly pricier than the industry average of \$154 for equivalent 384 kbps SDSL services. At \$219.95, BellSouth's FastAccess Business Speed 768 (768 kbps/512 kbps ADSL) is also higher than the industry average of \$210 for 768 kbps SDSL services.
- DSL service is subject to line quality and distance limitations. BellSouth has done well, upgrading roughly 80% of its total access lines to support DSL, but the fact remains that some customers may be just too far away from the company's central office or digital loop carrier (wherever the DSLAM is located) to receive DSL service. Cable-based broadband access is not subject to this same limitation.
- BellSouth charges a monthly fee for its security suite, which is \$6.99 per month for one PC, \$11.99 per month for two to four PCs, or \$24.99 a month for up to ten PCs installed. Other broadband providers, like AT&T with its SBC Yahoo! service, offer some measure of security software for free with service, and sites on the Web (among them, Yahoo! and Zone Labs) also offer free downloads of security software.
- BellSouth and Yahoo! will not have their co-branded DSL offering available until late 2006. The broadband market is volatile, and cable rivals are raising broadband speeds for no extra cost and forming their own Internet content partnerships, and the playing field could be significantly different by the end of 2006. It is unclear why there is a lengthy delay to form an alliance when Yahoo! has expertise offering service through similar deals with AT&T and Verizon.
- The high speed of BellSouth's new FastAccess DSL Xtreme 6.0 is more sensitive to local loop quality than lower-speed DSL flavors, which makes it hard to provision and limits availability. Currently, those loops closest to the central office switches are most likely to offer service, while those loops further out are less likely to do so. BellSouth has not disclosed any actionable timeline for full availability across its territory, though it does plan to upgrade 80% of its footprint to ADSL2+ technology over the next few years. For now, though, FastAccess DSL Xtreme 6.0 availability remains spotty.

Cablevision		
Subscriber Data	Q305	Q205
<i>Basic Cable Subscribers</i>	3,009,064	3,005,558
<i>Homes Passed</i>	4,473,977	4,464,425
<i>Broadband-Ready Homes</i>	4,473,000	4,464,000
<i>% Homes Passed Broadband-Ready</i>	99%	99%
<i>Broadband Subscribers</i>	1,600,434	1,519,864
<i>Broadband Penetration</i>	35.8%	34%
<i>Broadband Subscribers Added</i>	80,570	79,285
<i>Broadband Subscriber Growth</i>	5.3%	5.5%
<i>Broadband Market Share (Rank)</i>	3.8% (9 th)	3.9% (9 th)

Cablevision's Optimum Online high-speed Internet service is threatening to competitors. While the company was slower than many of its fellow cable providers to upgrade its New York City area cable network for advanced services several years ago, Cablevision made great strides and now has a higher penetration of broadband into available households (35.7%) than any provider of consumer high-speed Internet access in the nation. Cablevision's cable modem service includes, at no extra charge, Internet security tools such as anti-virus, firewall, parental controls (Web filtering), pop-up blocker, and spam blocker. The company's cable network passes over more than 4,473,000 households, more than 99% of which had been upgraded for broadband Internet service. Cablevision added 80,570 broadband customers in Q3 2005, with 5.3% quarterly growth and 27.1% annual growth. Optimum Online provides customers with up to 10 Mbps downstream and 1 Mbps upstream for \$29.95 a month with one-year contract, far ahead of the standard up to 3.0 Mbps/768 kbps DSL offered by the company's primary competitor, Verizon. The cable company also offers a speed upgrade with a whopping 30 Mbps downstream and 2 Mbps upstream for an additional \$9.95 to \$14.95 a month, depending on whether the customer bundles a voice package. Cablevision's Optimum Voice service competes with rival Verizon with a triple play bundle of cable TV, broadband, and unlimited local/long-distance voice using VoIP. This bundle costs about \$90 per month for the first year of service, a \$45-per-month discount over what the services would have cost if purchased separately.

Cablevision Optimum Online monthly service costs \$44.95 per month for subscribers who bundle the company's premium cable TV package and don't sign up for an annual contract; this is \$15 a month more expensive than DSL service from Verizon. Non-cable TV customers and lower-tier basic cable TV customers pay \$5 more per month for the high-speed service. These rates compare unfavorably to Verizon Online standard DSL service, which Verizon offers for \$37.95 a month on a monthly basis, or for \$29.95 per month with a premium voice bundle or an annual contract. Cablevision's reach is limited, and it is in part a victim of its own success. The company's services are only offered in New York City and outlying areas, and its penetration rates are already among the highest of any cable provider, which means its relative broadband subscriber growth is lower.

CABLEVISION OPTIMUM ONLINE STRENGTHS

- Due primarily to high marks for service quality and available bandwidth, as well as the fact that DSL has not been available to a significant percentage of its customer base until recently, Cablevision has a higher penetration rate for its broadband Internet service – more than 35.7% – than any provider in the industry. The company also benefits from a relatively affluent and technology-savvy customer base in the nation's largest metropolitan area: New York City.

- Cablevision's Optimum Online broadband Internet service is available to more than 4.47 million households in the greater New York City metropolitan area (i.e., Long Island, Westchester County, northern New Jersey, and southwestern Connecticut), which represents more than 99% of the total homes passed by the company's cable network. Cablevision currently has 1.6 million broadband customers and added 80,570 of those in Q3 2005. Cablevision's contiguous metro New York footprint serves the single most attractive market in the nation. The population density ensures that Cablevision doesn't have to stretch a lot of fiber across long distances devoid of customers. The prosperity and sophistication of the upscale urban markets boost demand and penetration rates of broadband Internet, premier TV packages, and VoIP-based cable telephony.
- Cablevision is currently promoting Optimum Online by offering the first year of service for \$29.95 per month, with free use of a cable modem, free shipping of the self-installation kit, no annual commitment, and a free wireless router or MP3 player for customers that order online.
- Multi-dwelling units (MDUs, also known as residential high-rise apartments) represent a large captive audience to Cablevision that is difficult to unseat. Residential high-rises are prevalent around New York City, and telecom competitors cannot simply march in, pull their own wire through these buildings, and switch over customers. It is equally impossible for most apartment dwellers to switch over to satellite TV, because they cannot easily mount an antenna on the roof or the side of the building.
- Cablevision has aggressive double play and triple play bundle promotions that offer cable modem Internet and unlimited VoIP phone service for about \$60 per month, and adds digital cable TV for about \$90 per month, for the first year of service. The triple play bundle essentially gives away unlimited phone service free with a video/Internet bundle for the first year.

CABLEVISION OPTIMUM ONLINE WEAKNESSES

- Following DSL price cuts by its primary competitor, Verizon, the Optimum Online Internet service is significantly more expensive at \$44.95 per month for customers that also subscribe to a premium cable TV package and a month-to-month agreement. These rates compare unfavorably to Verizon Online standard DSL service, for which the month-to-month rate is \$37.95 a month.
- For customers that do not subscribe to the company's premium cable TV packages, Optimum Online is expensive at \$49.95 per month. This has led to increased customer dissatisfaction on the part of some subscribers.
- With 3 million out of 4.4 million households already subscribers and no real opportunities to grow its contiguous metro New York footprint, Cablevision does not have much left in the way of cable TV network growth opportunities. As a solid Tier 2 carrier, it is overshadowed by such titans as Comcast, Time Warner Cable, Cox Communications, and Charter Communications.
- Cablevision's cable modem service does not have content partnerships with major Internet portals, such as Yahoo! and MSN, which many broadband service providers have fostered. This puts the company at a competitive disadvantage in trying to win over customers, especially compared to Verizon, which offers its DSL customers MSN Premium or Yahoo! — for no additional charge.

Charter Communications		
Subscriber Data	Q305	Q205
<i>Basic Cable Subscribers</i>	5,906,300	5,943,100
<i>Homes Passed</i>	12,336,000	12,287,500
<i>Broadband-Ready Homes</i>	10,985,400	10,984,100
<i>% Homes Passed Broadband-Ready</i>	89%	89.3%
<i>Broadband Subscribers</i>	2,120,000	2,022,200
<i>Broadband Penetration</i>	19%	18%
<i>Broadband Subscribers Added</i>	97,800	43,800
<i>Broadband Subscriber Growth</i>	4.8%	2.2%
<i>Broadband Market Share (Rank)</i>	5.1% (7 th)	5.1% (7 th)

Charter's High-Speed Internet service is vulnerable to competitors. Charter has had to restate its earnings for the past two years and was the subject of a 20-month SEC investigation into its accounting practices. The company has a high debt load — more than \$19.12 billion in long-term debt — and it is losing basic cable customers to satellite competitors. Charter lost 168,300 net basic cable subscribers from Q3 2004 to Q3 2005. The main reason Charter trails its peers and competitors in acquiring broadband subscribers is the slow pace at which the company has upgraded its network to support cable modem access. Despite restructuring its broadband service into two service tiers at lower price points, Charter still faces heated price competition from DSL providers. The incumbent local providers, especially AT&T and Verizon, have been marketing their local, long-distance, and wireless packages with broadband to try and sell customers on bundles that offer more services at value prices. Charter, as well as its cable counterparts, needs to be wary of the ILEC push into satellite television through partnerships with EchoStar and DIRECTV. The ILECs have entered into these partnerships as a preemptive counter to cable companies developing VoIP-based unlimited local/long-distance voice service, which completes the triple play offering of voice, video, and Internet.

Despite its shaky finances, Charter has made great strides updating its network and signing up High-Speed customers. Regardless of its late start in network upgrades for broadband access, 10.9 million of the 12.3 million U.S. households Charter passes (89.3%) have been upgraded for broadband Internet service. The cable provider has a total of 2.12 million broadband customers, with 19% penetration of broadband qualified homes passed. Charter added 300,100 high-speed broadband customers from Q3 2004 to Q3 2005, for an annual growth rate of 16.4%. To be more price-competitive against its DSL rivals, Charter also has been willing to jump into tiered services, with prices for its lower-tier service starting as low as \$29.99 per month. Also, its upper tier broadband service (3.0 Mbps/256 kbps) is offered with the first six months for \$19.95 a month. Charter has developed a dialtone VoIP offering, which it urgently needs to create an attractive "triple play" bundle of voice, data, and cable TV, which could help reduce customer churn as incumbent local telephone companies team with satellite TV and build out their own broadband video networks. In August 2004, Charter Communications announced partnerships with Sprint, Level 3, and Accenture to develop dialtone VoIP services throughout its cable networks, and had services available to 900,000 homes by the end of 2004; Charter intends to reach all of its divisions with phone service by the end of 2005. Sprint is provisioning the local and long-distance voice services for Charter. Charter also has a small conventional dialtone via cable telephony base that it inherited from Comcast (then AT&T Broadband), and together with the new VoIP service, served 89,900 telephony customers in Q3 2005. Charter needs additional revenue streams, but it cannot afford major investment costs. Its VoIP partnerships, which outsource carrier long-haul, local interconnect, and telephone provisioning functions, will deliver revenue-generating VoIP services with minimal up-front costs to Charter. The cable provider has a total of 1.87 million bundled customers, which includes customers receiving a combination of at least two

different types of services (i.e., video service, high-speed Internet service, or telephony). Charter needs to create marketing buzz with value priced bundle packages that compete head to head with the RBOCs' strong bundles. In March 2005, the cable provider redesigned its Charter.net Web site, which is the portal site for its High-Speed subscribers. The new Web site offers free content such as news, sports, entertainment, weather, and e-mail Web access. Charter's premium content tier for consumers, called High-Speed Plus, is offered for an additional \$7.99 a month and offers content from Movielink, AmericanGreetings.com, Clever Island, CNN NewsPass and CNN Now, Encyclopaedia Britannica, MLB.com, Shockwave.com, GameBlast, and weather.com. The company also offers Charter Music, a pay music subscription service with a library of 1 million songs, for an additional \$7.99 a month through a partnership with MusicNet.

CHARTER HIGH-SPEED INTERNET STRENGTHS

- Charter offers two tiers of broadband service (384 kbps/128 kbps and 3.0 Mbps/256 kbps) in all of its markets, with prices starting as low as \$29.99 a month. Customers can choose the speed that best fits their own Internet usage patterns. Charter's entry-level tier makes its broadband Internet service price-competitive against telephone companies selling DSL service, and it is highly marketable to dial-up subscribers looking to make the transition to broadband. Also, the upper tier broadband service is offered with the first six months for \$19.95 a month.
- Charter offers a variety of advanced digital video services in many of its markets nationwide, including digital cable TV, VoD, DVR, and HDTV. While they are not necessarily bundled with broadband Internet and phone services, they can collectively serve to increase the penetration of Charter's full lineup of services. About 1.87 million Charter subscribers have at least two of these services (video, broadband, or telephony).
- Charter High-Speed Internet service is available to 10.98 million U.S. households, which represents 89% of the total homes passed by the company's cable network. Charter currently has more than 2.12 million broadband customers, and it added 310,800 broadband customers from Q3 2004 to Q3 2005, with an annual growth rate of 18.2%.
- Charter bolstered the content it offers its broadband subscribers. The free portion of Charter.net shows no extra value compared to existing popular consumer Web portals such as Yahoo! and MSN. But the new pay-to-play content offerings, High-Speed Plus and Charter Music, do offer additional value with a cluster of premium services that would cost more if purchased separately. Breaking up the premium content and music download service for an additional \$7.95 a month each lets Charter appeal to subscribers that might want just one or the other.
- Charter has started deploying dialtone VoIP to win additional revenue from its video and high-speed Internet customers by selling them phone service. Besides additional revenue, the new service will also increase Charter's bundling potential, which should result in lower churn. The more services Charter customers buy from the company, the harder it becomes for those customers to switch providers.
- Charter has investor Paul Allen on its side. While this may be a mixed blessing in terms of independent vendor selection, having Paul Allen as a majority shareholder instills confidence in other investors, and he has pockets deep enough to help Charter survive despite any financial problems.

CHARTER HIGH-SPEED INTERNET WEAKNESSES

- Charter's new entry-level Pipeline service offers 384 kbps downloads and costs \$29.99 per month with at least basic cable TV service. The price/performance level is not competitive with entry-level DSL with price cuts by competitors such as Verizon and AT&T. For example, in August 2005, Verizon started offering its consumer DSL service for as low as \$14.95 a month with online order and annual contract.
- Charter's High-Speed services are even more expensive compared to DSL when considering that Charter charges an additional \$3 to \$5 fee for the monthly modem lease. DSL providers typically include the cost of the modem with the monthly fee and market it as a "free" modem included as part of the service.
- While it offers a lot of video packages as well as two high-speed Internet tiers, Charter does a poor job of bundling them together in packages that provide consumers with any cost savings over purchasing the services a la carte; its only offer is a \$10 monthly discount on broadband that is bundled with cable TV service. Charter does not promote bundled packages that extend monthly savings to customers who combine premium services, such as digital cable programming packages, with broadband.
- Like most cable companies, Charter does not offer free backup dial-up access, a disadvantage if Charter wants to increase its penetration of the SOHO and small business markets. Charter also requires a steep \$9.95 fee to lease home networking equipment and a \$3 to \$5 monthly cable modem lease charge, which are commonly subsidized or offered free by many DSL providers such as Verizon.
- Despite a long-standing relationship with Microsoft co-founder Paul Allen, Charter does not have noteworthy ties to Microsoft and its initiatives into digital home entertainment, such as its Windows Media and Microsoft TV divisions. Instead, Charter has gone out on its own, with its own Web portal launched in March 2005, in effect dropping its partnership with MSN for Web content and advanced features.
- Charter's plans for developing new services are hampered by \$19.12 billion in long-term debt. The company must make high quarterly interest payments: it paid \$462 million in interest payments for Q3 2005. Charter is in danger of bankruptcy if it cannot find a better long-term solution for its financial woes.

Comcast Cable		
Subscriber Data	Q305	Q205
<i>Basic Cable Subscribers</i>	21,409,000	21,448,000
<i>Homes Passed</i>	41,400,000	41,200,000
<i>Broadband-Ready Homes</i>	40,980,000	40,758,000
<i>% Homes Passed Broadband-Ready</i>	98.9%	98.9%
<i>Broadband Subscribers</i>	8,142,000	7,705,000
<i>Broadband Penetration</i>	19.9%	18.9%
<i>Broadband Subscribers Added</i>	437,000	297,000
<i>Broadband Subscriber Growth</i>	5.7%	4.0%
<i>Broadband Market Share (Rank)</i>	19.4% (1 st)	19.7% (1 st)

Comcast's high-speed Internet service is threatening to competitors, due primarily to the sheer size of the company's vast cable system holdings. Comcast's cable network passes 41.4 million U.S. households, 40.98 million (98.9%) of which have been upgraded for broadband Internet service. Comcast added 1.58 million new broadband Internet customers from Q3 2004 to Q3 2005; it now has 8.14 million broadband subscribers. As the largest cable TV operator, the company has by far the most high-speed Internet subscribers in the U.S. Comcast is the market

leader in eight of the top ten U.S. markets, and it has 70% of basic cable subscribers in the top 20 U.S. markets. Approximately 19% of the nation's broadband Internet customers belong to Comcast, making the company the largest domestic broadband provider, with 3.59 million more subscribers than Time Warner Cable/Road Runner and 1.65 million more than AT&T's SBC Yahoo! DSL. The cable provider's prospective shared acquisition of Adelphia with Time Warner Cable will let the carrier gain more subscribers, better cluster its networks for greater economies of scale, and trade up the quality of its cable plant through swapping properties with Time Warner Cable. To stay one step ahead of its DSL rivals, Comcast has increased its two-tier residential broadband speeds up to 6 Mbps and 8 Mbps downstream at no additional cost to the consumer on a market-by-market basis throughout 2005. In addition, the provider has built its own consumer Web portal, through partnerships with several content providers including Disney, FOXSports.com, and Rhapsody. Comcast has launched a new security offering for protection against online threats. For no additional charge, customers can receive nearly \$115 in value to enhance their online experience with Internet security solutions available through the following products: McAfee VirusScan, McAfee Personal Firewall Plus, and McAfee Privacy Service. Comcast's Workplace business broadband is offered in up to four different speed tiers: Lite (4 Mbps/384 kbps) for \$60 a month, Access (384 kbps/384 kbps) for \$39.95 a month, Standard (6 Mbps/768 kbps) for \$95 a month, and Enhanced (8 Mbps/1 Mbps) for \$160 a month. The company's enterprise remote office service, called Teleworker, costs \$60 a month per employee for Standard service and \$80 for Enhanced, with both requiring a one-year contract. Businesses must subscribe to a minimum of ten broadband connections in order to qualify for Teleworker service.

DSL price cuts by competitors such as Verizon and AT&T in its local service territory, however, make Comcast's high-speed Internet service relatively expensive. As part of a bundle, Comcast's broadband service pricing is \$42.95 a month (plus \$3 for the cable modem lease). DSL, by comparison, can be as low as \$14.95 to \$29.95 a month, depending on the market and the package of voice calling services to which a customer subscribes. Comcast lacks an entry-level offering to entice the dial-up crossover buyer. Instead of lower prices, the provider has increased its standard offering's download speed from 4 Mbps to 6 Mbps, a move that will not win over newcomers to broadband, who are often more interested in low prices than speed. Comcast also does a poor job of bundling its various digital services together in packages that provide consumers with any cost savings over purchasing the services separately. As Comcast thrives in digital TV and broadband, it still struggles with a key component to a high-value bundled offering — VoIP. After Comcast acquired cable provider AT&T Broadband in 2002, it stopped expansion of AT&T Broadband's circuit-switched cable telephone service, which is stagnant at about 1.2 million customers. As Comcast rolls out its VoIP-based voice service nationwide, it will pose a much greater threat to the RBOCs. As of the end of Q3 2005, Comcast offered phone service to about 16.5 million of the households its network passes, and the carrier doesn't expect to reach full market coverage until the end of 2006. Once Comcast rolls out its VoIP-based voice service nationwide, it will pose a much greater threat to the ILECs. The telephone companies have already launched bundled satellite TV services to counter cable providers' initiatives to expand into voice. Unlike most DSL providers, Comcast does not provide backup dial-up Internet access for its business broadband services. If service goes down, or an employee is away from the office, the business needs to have a separate dial-up ISP to stay connected. DSL providers usually include a certain number of dial-up hours along with a dedicated DSL connection.

COMCAST HIGH-SPEED INTERNET STRENGTHS

- Comcast high-speed Internet is available to 40.9 million U.S. households — a larger broadband footprint than any other single broadband provider in the country. Comcast has approximately 8.14 million broadband customers — more than any other residential broadband provider.
- Starting in July 2005, Comcast enhanced its residential speed tiers, introducing faster speeds to deliver 8 Mbps/768 kbps and 6 Mbps/384 kbps service. The speed increases are

automatic, which means customers are not required to take any action to receive the higher speeds and aren't burdened with a higher price. Plus, Comcast's new security suite, consisting of McAfee VirusScan, Personal Firewall Plus, and Privacy Service, comes at no additional charge to broadband customers.

- Comcast promotes its high-speed Internet service with incentives, such as its nationwide online promotion offering discounted months of service, that bring down the overall cost of the offering. The online promotion offers the first six months for \$19.95 (\$138 in savings), \$100 cash back, and a free cable modem.
- Comcast's deal prospectively to co-acquire and split up Adelphia Communications, and simultaneously swap assets with Time Warner Cable, will let Comcast grow its subscriber base, better cluster its cable networks, and dispose of some of its lower-quality cable plant in favor of higher-quality cable plant. On top of it all, the deal finally gives Comcast an avenue to dispose of its Time Warner stakes, which it inherited through the AT&T Broadband acquisition and was required by regulators eventually to dispose.
- Comcast offers a variety of advanced digital products, such as digital cable TV, cable telephony (in select locations), VoD, DVR, and HDTV, which are not necessarily bundled with broadband Internet, but can collectively serve to increase the penetration of Comcast's full lineup of services. At the end of Q3 2005, the cable company had more than 9.44 million digital TV subscribers with 2.3 million digital set-top boxes with DVR and HDTV capability.
- In H1 2006, Comcast and Sprint's combined services will be a win-win situation for both companies because the value of offering both together will be greater than the value of wireless or cable services individually. Through a combined offering, Sprint and Comcast should be able to tie content and features into a wireless delivery platform that will allow customers access to all their services from any location. New applications created include remote DVR access and dual network phones with access to the Comcast home VoIP connection and Sprint's traditional wireless service.

COMCAST HIGH-SPEED INTERNET WEAKNESSES

- Following DSL price cuts by competitors such as Verizon and AT&T in its local service territory, Comcast's high-speed Internet service is expensive: \$42.95 or \$57.95 per month (plus \$3 for the cable modem lease), compared to DSL that can be as low as \$14.95, depending on the market and consumer bundle. Comcast's executives have stated that they do not intend to respond to DSL price cuts with any of their own.
- While it offers a plethora of advanced digital communications services, Comcast does a poor job of bundling them together in packages that provide consumers with any cost savings over purchasing the services a la carte. The exception is high-speed Internet, which Comcast prices at an astonishing \$57.95 per month a la carte, compared to \$42.95 per month as part of a service bundle with cable TV.
- Comcast's consumer telephone strategy has been adrift. The carrier de-emphasized the cable telephony offering it inherited from AT&T Broadband and is moving slowly with its own VoIP deployment, which is scheduled to be available to less than half of its network footprint by the end of 2005. Also, its new Digital Phone service is overpriced by about \$15 a month compared to emerging independent VoIP carriers like Vonage, and it lacks converged Internet features such as Internet voice mail and Web-based calling feature control.
- As the largest broadband provider in the U.S., Comcast does not have a broadband partnership with a major content provider like its rivals and peers do (e.g., AT&T with SBC

Yahoo! and Verizon with Yahoo!). Instead, Comcast is slowly building its own Web portal with small niche content providers and cable TV partners.

- Comcast executives say the company will not lower its prices to compete with DSL. The provider is trying to lure customers by claiming that it is providing more value by increasing download speeds while keeping prices the same. Unless subscribers are downloading huge files, however, the difference between average Web surfing at 1.5 Mbps and 6 Mbps is negligible. In addition, subscribers who try to make the most of the bandwidth could fall prey to Comcast's vague, arbitrary bandwidth policy that tags high bandwidth users for downloads greater than an unspecified amount of Gigabytes a month.
- Comcast Teleworker is not much more than residential cable modem service with some enhanced business customer support, a package for which the company charges a substantial premium over its standard residential broadband service – up to \$17 more a month. Given its focus on the residential market, a skimpy business services portfolio, and a lack of experience in dealing with enterprise customer issues, Comcast hasn't justified the perception that it is up to the task of supporting the remote access needs of larger businesses.

Covad Communications		
Subscriber Data	Q305	Q205
<i>DSL Subscribers</i>	578,000	554,400
<i>DSL Subscribers Added</i>	24,000	7,000
<i>DSL Subscriber Growth</i>	4.3%	1.3%
<i>Broadband Market Share (Rank)</i>	1.4% (12 th)	1.4% (12 th)

Covad's DSL services are vulnerable to competitors. Covad mainly relies on wholesale relationships: the company does not allocate significant resources to its direct DSL service because it is primarily focused on its wholesale strategy where its partners' broadband pricing is more competitive with major incumbent local carriers' offerings. While Covad offers a wide array of DSL services, the company lacks the brand recognition and bundling ability of many of its primary competitors, most notably, major incumbent local carriers — Verizon, AT&T, BellSouth, and Qwest. Covad isn't a household name with consumer and business customers, and well-known incumbent providers can use their brand recognition for a marketing advantage. The ILECs also offer services in discount bundle packages that Covad doesn't, including wireline and wireless voice services. Also, Covad is facing increasingly tough residential DSL competition as the Bell companies raise their speeds and lower their prices to increase their addressable customer bases. While Covad has followed suit and reduced its own direct channel prices, its ability to manipulate pricing to the end customer is somewhat constrained because the company must lease copper loops from its largest DSL competitors, the incumbent telephone providers, or get access to copper loops indirectly through line-splitting arrangements with CLECs. While Covad pricing holds its own in higher-end ADSL, SDSL, and IDSL, low-cost entry-level ADSL from the RBOCs, intended for best-effort Internet access, makes the low-end sector financially too unattractive for DSL competitors like Covad. Across business, residential, wholesale, and retail services as a whole, Covad added about 53,505 DSL lines from Q3 2004 to Q3 2005 with 10.2% annual growth, to total 578,400 end users. The company had approximately 347,400 consumer and 231,000 business broadband DSL lines in service, representing 60.1% and 39.9% of total broadband lines, respectively.

Covad's biggest strength is that it has the largest DSL footprint in the U.S., with more than 2,000 central offices on-net and the ability to provide service in more than 235 markets covering about 62 million homes and businesses nationwide. Covad's strengths lie in offering all types of business services across a broad footprint: the company offers a wide variety of SDSL, ADSL, IDSL, T1, and frame relay access products, as well as various value-added services including

business VoIP, e-commerce, applications hosting, and security options. In September 2005, Covad released a third tier of its TeleSOHO ADSL service nationwide for residential and small office customers with double the previous maximum DSL downstream speed, with 6 Mbps/768 kbps for \$109.95 a month. The new DSL service is designed for small offices and households to have multiple users share the same connection with consistent multi-megabit high-speed access. In addition, Covad lowered the price of its other two shared line TeleSOHO ADSL services and cut \$20 a month on its three top tier TeleSpeed SDSL services. Covad currently offers its small business VoIP services in 125 U.S. markets. The company does not offer VoIP service for consumers and has no announced plans, but it has the capability to cross over into the residential market. Regulatory changes have made Covad's broadband business model more challenging for its lower-end services such as TeleSOHO, because of the elimination of mandated RBOC line-sharing at regulated rates. Covad responded with its Dedicated Loop ADSL services, which tap UNE-L copper loops, a rate-regulated vehicle that isn't going away.

COVAD DSL STRENGTHS

- Covad has an impressive DSL network footprint with more than 2,000 central offices in 117 of the top U.S. markets, and service available to about 50% of businesses and homes nationwide. The RBOCs, cable providers, and other CLECs operating DSL facilities have local market and/or regional broadband coverage, but not the national footprint of Covad.
- Covad now offers ADSL speeds up to 6 Mbps downstream and 768 kbps upstream targeted to both small businesses and heavy bandwidth consumers with one static IP address, and is currently offered with a free modem and self-installation kit.
- Covad is the one nationwide wholesale, retail, business, and residential DSL provider left standing in the U.S., and more than 350 ISPs and other providers resell its services. Its list of consumer DSL partners includes high-profile names such as AT&T, AOL, EarthLink, and Sprint. Covad relies on its partners to lead with the strongest consumer offers. For example, via Covad's network, EarthLink offers 1.5 Mbps downstream and 128 kbps ADSL service for \$19.95 a month for the first six months, and \$39.95 a month thereafter.
- Covad reduced the prices of its TeleSpeed SDSL 768 kbps, 1.1 Mbps, and 1.5 Mbps, as well as its TeleSOHO ADSL 1.5 Mbps/128 kbps and 3 Mbps/768 kbps services, by up to \$20 a month. Also, its TeleSOHO 1.5 and 3 Mbps services are now offered with Dedicated Loop ADSL variants – dedicated loop ADSL is designed for customers that want to buy DSL without a bundled ILEC voice line, or that want to use VoIP instead.
- Covad is one of the few DSL carriers to offer a variety of service level agreements (SLAs) with its business-class DSL services, including 99.9% network reliability, 30-calendar day installation, 24-hour mean-time-to-repair, and network latency (110 ms roundtrip). The company promises to fix a network problem within 24 hours and offers live customer service phone support 24/7.
- When the FCC decided in February 2003 to phase out DSL line sharing, it prompted concerns over how Covad would continue to serve consumer customers once the ILECs were free to set their own rates, or if it would stop offering shared CLEC DSL/ILEC voice service altogether. Covad has succeeded in cutting multi-year deals with three of the four ILECs that account for 90% of its service area – at rates only marginally higher than the government-set rates it had been paying – helping to secure its future in line-shared consumer DSL for the foreseeable future.

COVAD DSL WEAKNESSES

- Covad has managed to attract residential resale partners such as AT&T, AOL, EarthLink, MCI, Speakeasy, and Sprint, but the company's own consumer retail channel suffers from a lack of brand recognition, especially when going up against major Tier 1 carriers. Resale is an important part of Covad's strategy, and it is Covad's primary focus in residential DSL, but direct sales tend to yield higher margins.
- Covad is facing increasing competition from the incumbent local carriers' heightened focus on DSL as a strategic growth opportunity. This is a particularly difficult challenge for Covad since the incumbents have a much broader range of bundled services options for consumers, and are much better known than Covad among potential business and consumer customers.
- Covad isn't cost-competitive with the incumbent local carriers at the lowest end of DSL pricing. Covad's entry-level TeleSurfer residential offer is \$39.95 a month for a relatively lightweight 1.5 Mbps/128 kbps service. Comparable services from the LECs are about ten or more dollars a month less, although Covad says it spends no marketing dollars on the service, leaving the consumer marketing to resale partners such as AOL and EarthLink.
- Covad's new TeleSOHO ADSL 6 Mbps/768 kbps service is priced high at \$109.95 a month compared to similar business offerings from Comcast and AT&T's SBC Yahoo! DSL service.
- The RBOCs continue to increase availability and push prices down on the low-end residential and business broadband market for basic ADSL Internet access. The problem is exacerbated by DSL line sharing being phased out, which means the ILECs, not regulators, now control DSL line sharing – an attractive feature for very small businesses. Covad is an effective competitor across the rest of the spectrum of business services, but the ILECs have largely sewn up the high-subscriber volume, low-margin market segment for basic business DSL Internet access.

Cox Communications		
Subscriber Data	Q305	Q205
<i>Basic Cable Subscribers</i>	Third Qtr.	6,283,122
<i>Homes Passed</i>	Numbers	10,671,040
<i>Broadband-Ready Homes</i>	Not Disclosed	10,582,112
<i>% Homes Passed Broadband-Ready</i>	-	99%
<i>Broadband Subscribers</i>	-	2,846,438
<i>Broadband Penetration</i>	-	26.9%
<i>Broadband Subscribers Added</i>	-	97,779
<i>Broadband Subscriber Growth</i>	-	3.6%
<i>Broadband Market Share (Rank)</i>	-	7.3% (5 th)

Cox's high-speed Internet service is threatening to competitors, due primarily to the carrier's early rapid deployment of broadband throughout its cable network, and because the company does an excellent job bundling its video, voice (where available), and data services at substantial cost savings to its customers. Cox's cable footprint covers several of the nation's top metropolitan areas, such as Cleveland, Las Vegas, New Orleans, Orange County, CA, Phoenix, and San Diego. The company's cable network now passes 10.67 million U.S. households. Virtually all (99%) of Cox's cable plant has been upgraded to support advanced broadband services. Cox has 2.84 million broadband Internet subscribers (both business and residential), and it added 97,779 net broadband subscribers in Q2 2005 – 26.7% annual growth (Cox's Q3 2005 subscriber numbers were not disclosed). About 7.1% of the nation's broadband Internet customers belong to Cox Communications, ranking the company fifth in the U.S. consumer broadband market behind Comcast, AT&T, Time Warner Cable, and Verizon. Cox's Value Package 256 kbps/256

kbps service costs \$24.95 a month for consumers, whether it is bundled with Cox video and telephone services or bought a la carte. In addition, Cox offers its Preferred Internet service (\$39.95 as part of a bundle) at 4 Mbps/512 kbps speeds, up from 3 Mbps/256 kbps, and its Premier package (\$54.95 as part of a bundle) at 9 Mbps/1 Mbps, up from 5 Mbps/768 kbps. Cox's standalone \$24.95 entry-level 256 kbps/256 kbps cable modem service pricing is on par with the best bundled pricing offered by its major DSL competitors, but it does not require buying a voice/video bundle or a subscription to a one-year service contract. Cox's Digital Telephone service is now available in 22 markets, representing 70% of its total footprint, with 200,545 new voice customers in H1 2005 to total 1.5 million subscribers. Cox launched its Digital Telephone service in Las Vegas, Macon, GA, central and Gulf Coast of Florida, and Topeka, KS in Q4 2005. Cox's strategy of bundling digital TV, broadband, and voice at discount prices continues to succeed, and 48.6% of basic video customers now subscribe to two or more of its services. Besides asymmetrical Internet speeds, Cox sells a business symmetrical 1.5 Mbps tier in some markets that could potentially be a flagship to compete against dedicated Internet access over T1 leased lines and 1.5 Mbps symmetrical DSL (SDSL) services. Across all of its broadband Internet tiers, Cox Business Services can boast that, unlike DSL, it delivers promised port speeds to customers; DSL, in contrast, aims for theoretical "up to" speed tiers in best-case scenarios.

While Cox has definitely pushed the envelope in terms of offering broadband Internet and telephone services and bundles, it is facing increased competition from the major ILECs, which have entered into satellite video partnerships to counter cable voice/video/data bundles. In addition, while high-speed cable access still leads DSL deployment by a significant margin of 57.5% in the U.S., telephone companies are using DSL to reduce customer churn as much as to generate revenue, and they are beginning to offer tiered DSL Internet services that provide a variety of speeds at a variety of price points, including low-cost DSL (Verizon Online DSL with Yahoo! for as low as \$14.95 a month) designed to win dial-up Internet users over to broadband. In November 2005, Cox announced it is selling cable TV systems in multiple markets to Cebridge Connections in Q2 2006. Cebridge will acquire 940,000 cable subscribers in the Cox markets of west Texas, North Carolina, Humboldt/Bakersfield, and Middle America Cox (small markets in Texas, Louisiana, Arkansas, Oklahoma, Mississippi, and Missouri). This sell-off will lessen the size of Cox's existing and potential customer base by divesting these central and southern U.S. markets. Cox needs to improve on offering value-added content services for its high-speed Internet service, either by investing in broadband features and content or by linking up with a prominent content provider such as MSN, Yahoo!, or AOL. Finally, the consumer dialtone VoIP dam broke in late 2003, and Cox's cable TV peers have started to jump onto the VoIP dialtone bandwagon. Carriers such as AT&T and Vonage also offer a cheaper "disruptive" VoIP dialtone alternative. Though Cox has developed its own VoIP service, it is possible that cheap VoIP could bite deeply into the time and money Cox has invested in rolling out its more traditional, more expensive cable telephone services. Cox has a patchwork of coverage across 36 markets, which makes it difficult to sell to large businesses with geographically dispersed branch offices in the U.S. or around the world. The cable provider has been ahead of other cable operators in launching business broadband services, and it was one of cable telephony's pioneers. However, the carrier needs to get its name out in the business market and differentiate its product offerings from both incumbent telephone companies and their newer competitors.

COX HIGH-SPEED INTERNET STRENGTHS

- Cox is a major broadband success story, and it has one of the highest penetration rates in the business – 26.9% of its broadband-ready homes passed. Cox now has a total of 2,846,438 broadband customers, making it the fifth-largest domestic broadband provider as of Q2 2005.
- While basic cable television growth has slowed and several cable providers are losing video subscribers to satellite providers, Cox has a good head start in offering services that generate additional revenue that satellite cannot match. Cox is one of the market leaders in offering packages of cable programming, high-speed access, and telephony over its broadband

network, and the company has more than 3 million customers that subscribe to two or more Cox services.

- Cox's decision to sell its "Value" high-speed Internet package as a standalone service (i.e., not requiring bundled video or phone service) for \$24.95 a month puts it on par with the most competitive entry-level packages offered by DSL providers. Even though it is only a 256 kbps/256 kbps service, if Cox markets the service broadly, the price should be attractive enough to capture dial-up Internet subscribers that want faster speeds and an "always on" connection, with no bundling requirement or contractual commitment.
- In September 2005, Cox received the highest ranking among consumer broadband providers in the J.D. Power and Associates' 2005 Internet Service Provider Residential Customer Satisfaction Study. This was the first time that its high-speed Internet service was ranked the highest in overall customer satisfaction in the nation. Earlier this year, Cox was also awarded the J.D. Power and Associates highest overall satisfaction ranking in the 2005 Residential Telephone Study in the West Region for the third consecutive year.
- Cox's current voice service is available in 22 markets (circuit-switched voice and VoIP), representing 70% of its total footprint, with 200,545 new voice customers in H1 2005. Cox's telephony penetration is 22% of telephone-ready homes passed with a total of 1.5 million phone customers as of the end of Q2 2005.
- Cox's bi-directional 1.5 Mbps service should make traditional telecom competitors sit up and take notice. The service takes Cox out of asymmetric and low-speed symmetric services and vaults it into direct competition with dedicated Internet services sold on high-end symmetric DSL and even T1 leased lines.

COX HIGH SPEED INTERNET WEAKNESSES

- Though Cox's high-speed Internet Value package is a compelling price/performance competitor in comparison to entry-level tiers from DSL providers, the carrier does not advertise the service prominently and it is only available in a few markets. Instead, it uses targeted marketing for the lower tier and chooses to push the more expensive services and bundles prominently. Cox is effectively pulling its punches in competing with entry-level DSL, probably out of concern for down-selling its existing and potential Internet subscribers to lower broadband tiers.
- Cox's selling off a number of its second-tier markets to Cebridge will cause the cable company to lose 940,000 basic cable TV subscribers at a time when it has been losing basic video customers on a quarterly basis. When the deal is completed in Q2 2006, it will drop from the third-largest domestic cable provider to fourth-largest, with a total of 5.4 million basic cable TV subscribers. Cox is losing its position in the market for an infusion in capital when it can be argued that having more existing subscribers is more valuable, given the high costs associated with acquiring new customers.
- Cox has done little in the way of bundling value-added content services with its high-speed Internet service. The cable provider must do a better job of incorporating content offerings into its broadband access services if it is to avoid ceding ground to DSL providers such as AT&T and Verizon, which have partnered with Yahoo! and MSN, respectively, to offer premium content and other subscriber features.
- Cox does not provide backup dial-up Internet access to its telecommuter and SOHO customers that find themselves on the road and in need of access to their Cox.net e-mail. It does offer Web-based access to e-mail, but it requires customers to find their own access,

such as a dial-up ISP, when away from home. DSL providers usually include a certain number of dial-up hours along with a dedicated DSL connection.

- Cox Business' cheapest Internet offering is \$79 a month for 768 kbps/256 kbps. This is not competitive with RBOC rivals Qwest DSL, whose 256 kbps/256 kbps service is \$39.95 a month, and AT&T's SBC Yahoo! DSL, whose 1.5 Mbps/256 kbps service is \$49.95 a month. Cox lacks a business entry-level service that is under \$50 a month.
- Cox Business Services broadband Internet services are available only in the 36 markets in which Cox Communications has a cable network. That footprint won't work for large customers who need to connect facilities that are not in the company's regions, or who have global needs.

Qwest Communications		
Subscriber Data	Q305	Q205
Total Voice Lines	14,933,000	15,087,000
DSL Subscribers	1,340,000	1,190,000
DSL Subscribers Added	150,000	68,000
DSL Subscriber Growth	12.6%	6.1%
Broadband Market Share (Rank)	3.2% (10 th)	3.0% (10 th)

Qwest's DSL service is threatening to competitors, because the company offers three asymmetrical DSL services for consumers plus the option to buy DSL without Qwest-bundled dialtone. Qwest offers this a la carte DSL in an effort to attract customers that want a broadband connection, but are leaning toward wireless replacement for their voice services, or those customers looking to try out an emerging VoIP service (e.g., Vonage, or Qwest's own VoIP service). Qwest now offers three tiers of DSL for residential users that cater to a wide market of users, from the dial-up cross-over buyer to the power user that runs multiple online applications such as online gaming. The different DSL speed packages provide customers with a 256 kbps/256 kbps up to 1.5 Mbps/896 kbps connection or up to a 3-5 Mbps/896 kbps connection. In November 2005, Qwest changed its DSL consumer pricing to be more aggressive, with offerings as low as \$19.95 a month for one year for Choice DSL Deluxe with MSN Premium 1.5 Mbps ADSL, and as low as \$29.99 a month for one year for Choice DSL Premier with MSN Premium 3.0-5.0 Mbps ADSL. The company has been able to turn around mediocre DSL demand, and from Q3 2004 to Q3 2005 took in 384,000 new DSL subscribers, to total 1,340,000 subscribers. Qwest's annual DSL growth was 40.2% over the past year (Q3 2005 to Q3 2004). Currently, 75% of Qwest households are eligible for broadband services and 96% of qualified households are able to purchase broadband speeds of 1.5 Mbps or greater. This is substantial broadband network coverage considering that Qwest serves the geographically largest, least densely populated local service territory of all the RBOC regions. Qwest's preferred ISP partner is MSN; however, the company also allows customers to choose their own ISPs from a list of more than 450 ISP partners. Qwest supplies its subscribers with a WiFi-enabled Actiontec modem bundled with security software, available either for lease or purchase. Qwest Choice DSL and Qwest Choice DSL Deluxe customers can lower the monthly recurring charge of their DSL service by \$5 per month when they purchase a premium local service plan (Home Phone Package) from Qwest. Consumers who choose Qwest's a la carte or Choice DSL service can lower the monthly price of their high-speed connection further by bundling it with wireless or satellite TV service from Qwest. Qwest reports it has increased its consumer bundled package (defined as customers with dialtone voice and either DSL or long-distance voice) penetration to 50%. The carrier offers small business customers an expansive selection of DSL services, ranging from 256 kbps to 7 Mbps download speeds. Qwest also offers integrated T1-based solutions for customers needing six or more lines and high-speed Internet access.

Due to its largely rural footprint, Qwest, more than any of the other major ILECs, is subject to the distance and line-quality limitations inherent with DSL. Cable-based high-speed Internet access does not have the same distance limitations, so once a cable operator upgrades its physical plant to support two-way traffic, all customers touched by the upgraded cable plant are capable of receiving high-speed Internet access. Qwest lags behind all the other RBOCs in both the total number of DSL lines in service and the percentage of lines equipped to support DSL. The next smallest is BellSouth, which has more than twice as many DSL lines in service in its nine-state territory. Qwest's long-term debt load, which stands at \$16.7 billion, continues to be a major drag on earnings, although recent debt restructuring has helped to ameliorate that concern. The pricing of the three tiers of Qwest's Choice DSL are good value for up to 5 Mbps downstream, but to maximize savings, the subscriber must sign up for a specific Qwest voice package or other bundle offering. In addition, Qwest has not yet added SDSL service to its business DSL portfolio.

QWEST DSL STRENGTHS

- Qwest more than tripled the downstream speed it offers to consumers and small businesses with the new Choice DSL Premier (up to 3-5 Mbps/896 kbps). The creation of a faster tier while still offering two lower speeds gives Qwest the ability to offer its customers choice and good value to meet their variety of needs with prices as low as \$19.95 a month for one year for Choice DSL Deluxe with MSN Premium 1.5 Mbps ADSL and as low as \$29.99 a month for one year for Choice DSL Premier.
- Qwest has installed DSL in 676 central offices and 4,000 remote terminals, making 10 million, or 65%, of its access lines DSL-capable at year-end 2004. Of Qwest's households, 75% are currently eligible for broadband services, and 96% of qualified households are able to purchase broadband speeds of 1.5 Mbps or greater. This is a strong accomplishment, considering that Qwest's local footprint is on average the least densely populated local service footprint among the original RBOCs. Qwest's DSL subscriber counts are up 40% in 2005.
- Since February 2004, Qwest has had a standalone DSL service available, informally known as "naked DSL," for consumers who do not want a bundled dialtone access line. The ability to purchase a line dedicated solely to DSL is unusual, as most major carriers only offer DSL bundled with switched voice dialtone. However, Qwest's bundling strategy requires all customers to purchase Qwest Home wireline service in order to receive bundle discounts on other service like satellite TV and wireless services.
- Qwest is the incumbent carrier in its 14-state local service territory, which gives it the advantage of owning the copper loop last-mile access to businesses and residential customers. Ownership of the last mile gives Qwest more flexibility in pricing, as well as better control over provisioning and repairs should a service disruption occur.
- Qwest's "Spirit of Service" initiative and "Promise of Value" campaign are paying off in terms of improved customer service and rising customer satisfaction. The goodwill that Qwest is generating by focusing on the simple basics, such as line installation and repair and responsive customer service, should reward the carrier with long-term customer loyalty well into the future.

QWEST DSL WEAKNESSES

- Qwest serves the most rural territory of all the RBOCs, making DSL deployment difficult and expensive. Its 14-state Rocky Mountain and northwestern U.S. service territory is the largest geographically, but it is also the smallest in population among the four major incumbent local carriers. Qwest does not serve huge, population-dense regions that compare to those in the

Northeast and Mid-Atlantic U.S. or California. Overall, Qwest has to maintain more outside plant per customer than its peers.

- Although Qwest has reduced its long-term debt load to \$16.7 billion, a vast improvement from \$25 billion at year-end 2001, it is still high in comparison to annual revenues of \$14 billion. This means that interest payments will continue to be a substantial drag, since Qwest paid \$1.5 billion in interest in 2004. While the carrier is seeing growth in its DSL and in-region long-distance sectors, and it achieved its year-end 2004 goal of 1 million DSL subscribers, the downside is that voice revenues, and the local access lines that drive them, are still falling.
- Similar to all DSL services, Qwest's DSL packages are "best effort," meaning the company does not guarantee the speed a customer actually receives, though the cost of service is still the same. Still, since Qwest has more rural service territories, customers are more likely to be further from their central office, which means they are more likely to experience lower speeds because of DSL's distance and line quality limitations.
- Qwest does not offer symmetric business DSL (SDSL) services, only asymmetric DSL (ADSL), though it does have a Pro ADSL service that offers some symmetric-speed tiers, with download speeds ranging from 640 kbps to 7 Mbps and upload speeds up to 1 Mbps. Qwest's Pro service is priced high, ranging from \$66 to \$275 a month. The Pro 640 kbps/640 kbps ADSL is devalued, because the Choice DSL Deluxe, at 1.5 Mbps/896 kbps, is faster and \$13 cheaper a month.
- Qwest lags behind all the other RBOCs in both the total number of DSL lines in service and the percentage of lines equipped to support DSL. The next smallest is BellSouth, which has more than twice as many DSL lines in service in its smaller nine-state territory.

AT&T (SBC)		
Subscriber Data	Q305	Q205
<i>Total Voice Lines</i>	50,200,000	51,000,000
<i>DSL Subscribers</i>	6,496,000	5,968,000
<i>DSL Subscribers Added</i>	528,000	360,000
<i>DSL Subscriber Growth</i>	8.8%	6.4%
<i>Broadband Market Share (Rank)</i>	15.5% (2 nd)	15.2% (2 nd)

AT&T's SBC Yahoo! DSL services are threatening to competitors. The second-largest incumbent local carrier in the U.S. is also the largest domestic DSL broadband provider, reporting 6.49 million SBC Yahoo! DSL subscribers as of the end of Q3 2005. The company has experienced 38.8% annual DSL growth from Q3 2004 to Q3 2005, adding 1.81 million subscribers. The second-largest RBOC has an extensive local footprint of 50.2 million access lines in 13 states and has the capability to deliver DSL to 77% of its lines. AT&T's partnership with Yahoo! has also helped its broadband service gain widespread appeal among customers due to Yahoo!'s name-brand recognition, premium content, value-added features, and tools. AT&T and Yahoo! have teamed up to launch an online music service that offers SBC Yahoo! DSL customers virtually unlimited music downloads for a flat monthly rate, with access to a library of 1 million songs for \$4.99 a month for an annual subscription or \$6.99 on a month-to-month basis. Also, Yahoo! offers a suite of anti-spyware, anti-virus, pop-up blocking, parental control, and e-mail protection tools to SBC Yahoo! DSL subscribers for no extra charge. SBC Yahoo! has three main DSL service packages with a discount price strategy: SBC Yahoo! Express Package (384 kbps-1.5 Mbps download and 128-384 kbps upload) service is regularly \$34.99 a month, which AT&T reduces to as low as \$16.99 per month for the first six months with an annual contract and online order, while SBC Yahoo! Pro Package (1.5-3.0 Mbps download and 384-512 kbps upload) is

regularly \$39.99 per month, which AT&T reduces to \$21.99 per month for the first six months with an annual contract and online order. In December 2005, the carrier rolled out a higher-tier service to compete with cable speed upgrades called SBC Yahoo! Expert Plus Package (1.5 -6.0 Mbps download and 384-608 kbps upload) for \$69.99 a month, reduced to \$49.99 a month with one-year contract and online order. The company requires that DSL customers also purchase local dialtone. AT&T is also making moves to grow customer acceptance and use of both wireline and wireless Internet access by making its WiFi service, which is available in more than 12,000 locations, available to its existing DSL customers for just \$1.99 a month extra – and at no extra charge to its new business DSL subscribers. In its 13-state local service territory, AT&T continues to be a leader in terms of offering innovative “triple play” and “quadruple play” bundled services to consumers. The company has the ability to bundle local and long-distance in with Cingular Wireless, WiFi, dial-up Internet access, DSL services, and EchoStar satellite TV services, all on one bill. In its 13-state local service territory, AT&T's Project Lightspeed's U-Verse video service is setting up the carrier to grow from a satellite TV alternative to an across-the-board cable TV competitor offering voice, Internet, and video services, all across a single broadband pipe. If all goes according to plan, the U-verse brand of services should be in widespread rollout by mid-2006. SBC first announced its intent to acquire AT&T at the end of January 2005, which was completed in November 2005. The carrier has chosen to move forward under the AT&T brand, dropping the SBC name. The combined entity intends to release new bundles for residential and small business customers, as well as other new offers.

While in its local service territory AT&T offers some of the most competitive prices in the broadband market, these prices for the most part only apply to the first six months of service. AT&T discontinued its most aggressive SBC Yahoo! DSL pricing (as low as \$14.95 a month for a whole year in Q4 2005). As with other DSL providers, AT&T's SBC Yahoo! DSL doesn't guarantee the downstream speed a customer will receive. DSL packages typically include language such as “speeds up to 384 kbps to 1.5 Mbps.” But regardless of the connection speed they actually receive, all customers subscribing to a particular package pay the same price. AT&T offers an SBC Yahoo! DSL package with downstream speeds of up to 6 Mbps to compete against cable providers. The high-speed service is priced as low as \$49.99, but the customer's residence must be close to AT&T DSL equipment (typically within 8,000 to 10,000 feet). No matter how aggressive AT&T is in consumer bundles and DSL, the bread and butter inside its local service territory is voice access lines, and AT&T has been losing these lines to local competitors and wireless replacement. AT&T's local operations (then SBC) reported it lost 2.71 million total switched access lines from Q3 2004 to Q3 2005.

SBC YAHOO! DSL STRENGTHS

- AT&T has a record of aggressive promotional DSL prices in its local service territory – as low as \$14.95 a month (discontinued in November 2005). The SBC Yahoo! DSL Express Package (384 kbps-1.5 Mbps download and 128-384 kbps upload) service, regularly \$34.99 month, costs \$16.95 per month for the first six months with an annual contract and online order. The SBC Yahoo! Pro Package (1.5-3.0 Mbps download and 384-512 kbps upload), regularly \$39.99 per month, costs \$21.99 a month for the first six months with an annual contract and online order. In November 2005, AT&T launched SBC Yahoo! Expert Plus Package (1.5-6.0 Mbps download and 384-608 kbps upload), regularly priced at \$69.99 a month, discounted to \$49.99 a month with a one-year contract and online order.
- The numbers say it all in terms of AT&T's success. AT&T is the leading DSL provider in the U.S., with 6.596 million residential and business subscribers served by its local operations, and an as-yet undisclosed additional number of broadband subscribers served by its interexchange carrier (IXC) operations. The local company added 1.81 million new DSL subscribers in the last year, from Q3 2004 to Q3 2005, with 38.8% annual growth. AT&T has been investing in its in-region local infrastructure to make sure it can keep growing. More than 77% of AT&T's local access lines are capable of supporting DSL service.

- In September 2002, AT&T (then SBC) and Yahoo! partnered to provide co-branded high-speed service – SBC Yahoo! DSL. AT&T provides the high-speed access, customer support, and billing, while Yahoo! provides security services such as Pop-Up Blocker, parental controls, firewall software, SpamGuard, and e-mail virus protection, as well as a member portal, enhanced e-mail, and 2 GB of storage per e-mail account. In May 2005, AT&T and Yahoo! increased the security offered to SBC Yahoo! DSL subscribers with the rollout of its SBC Yahoo! Online Protection service for no additional charge. The security software package comes with anti-spyware, anti-virus, pop-up blocker, parental controls, and e-mail protection, all controlled by a single integrated Web dashboard. SBC Yahoo!'s Music Unlimited is priced at \$4.99 a month for one year, or \$6.99 on a month-to-month basis, which is less than half the cost of similar services from RealNetworks and Napster.
- Through a partnership with satellite TV provider EchoStar, AT&T offers customers the much-hyped “triple play” of voice, data, and video services. With the Cingular acquisition of AT&T Wireless, AT&T offers the most comprehensive nationwide wireless footprint of any cellular provider. More than 67% of AT&T's local operations consumer access customers now subscribe to one or more additional key services, which can include long-distance, DSL, Cingular Wireless services, and DISH satellite video.
- AT&T, along with Verizon and BellSouth, has plans underway for massive residential fiber builds designed to bring advanced communications and entertainment services to consumers. AT&T's Project Lightspeed buildout program is coming out of the labs and it expects to have the first deployments up and running by year-end 2005. AT&T plans to bring fiber-fed services to 18 million homes in its local service territory by the end of 2007.

SBC YAHOO! DSL WEAKNESSES

- After the first six months, the price of SBC's Yahoo! DSL Express packages increases from a low \$16.95 month to \$34.95 per month with no annual contract, or whatever the going market rate is at the time. SBC Yahoo! DSL Pro is priced as low as \$21.95 per month for only the first six months, and then increases to \$39.95 per month. At the end of October 2005, AT&T discontinued its eye-catching promotion of SBC Yahoo! DSL Express for \$14.95 a month with an annual contract.
- AT&T may be attracting customers with its low SBC Yahoo! DSL and long-distance prices, but it may cost the company too much in reduced margins. While some competitors feel required to follow AT&T's lead on price in its local service territory, others are holding out with higher prices to protect the bottom line.
- As with other DSL providers, AT&T's DSL service is subject to line quality and distance limitations. Higher DSL speeds will not be available in all locations, and there will always be some rural SBC customers that will not be able to get DSL at all. AT&T's ADSL services offer only best-effort speeds, and the customer pays the same regardless of the actual bandwidth they can receive.
- SBC appears to have made the best possible decision in adopting the AT&T name, but it means abandoning the SBC name, in which the carrier invested a great deal of time and effort to build as a national brand. Also SBC may lose a block of AT&T local customers from the interexchange carrier inside its local service territory rather than re-absorbing them. AT&T dialtone customers made a conscious decision to switch away from SBC, and a subset of those customers are likely to have an “anyone but the RBOC” attitude to their telephone service. In light of the shrinking alternatives for wireline dialtone, these AT&T local residential customers may end up with the cable TV companies.

- AT&T's massive residential fiber buildouts for Project Lightspeed are a major gamble on the technology and regulatory fronts. Combining fiber with next-generation DSL, the Microsoft IPTV platform, and new billing and operations support platforms on a mass-market scale might snowball into a huge integration headache fraught with technical glitches – or it might work flawlessly. Ultimately, the consumer will decide if the service is up to snuff. If it is not, U-Verse will be a flop.

Time Warner Cable		
Subscriber Data	Q305	Q205
<i>Basic Cable Subscribers</i>	10,923,000	10,905,000
<i>Homes Passed</i>	19,300,000	19,300,000
<i>Broadband-Ready Homes</i>	18,914,000	18,914,000
<i>% Homes Passed Broadband-Ready</i>	98%	98%
<i>Broadband Subscribers</i>	4,760,000	4,516,000
<i>Broadband Penetration</i>	25.1%	24.1%
<i>Broadband Subscribers Added</i>	244,000	212,000
<i>Broadband Subscriber Growth</i>	5.4%	4.9%
<i>Broadband Market Share (Rank)</i>	11.4% (3 rd)	11.5% (3 rd)

Time Warner Cable's Road Runner high-speed Internet service is threatening to competitors, due primarily to its early emergence as a broadband market leader back in 1996, a status that gave it momentum in the early days of broadband that has carried to the present day. Time Warner Cable's network now passes 18.9 million U.S. households, 98% of which have been upgraded for broadband Internet service. Through the upcoming Adelphia acquisition, Time Warner Cable will gain a big investment and growth opportunity, prospectively securing 3.5 million net new subscribers in its most lucrative markets. Time Warner Cable has 4.76 million residential and business broadband Internet subscribers, including 244,000 net new subscribers that were added in Q3 2005. Road Runner currently yields 24% penetration of eligible homes passed and holds an 11.4% market share of domestic broadband subscribers. On a market-by-market basis, Time Warner Cable has been increasing the speeds of its two-tier Road Runner service. The standard Road Runner speed was upgraded from 3 Mbps/384 kbps to 5 Mbps/384 kbps, with no change in its \$44.95 a month price. Road Runner Premium's speed also increased from 6 Mbps/512 kbps to 8 Mbps/512 kbps, with no change in its monthly price of \$69.95. These upgrades in download speeds by 2 Mbps at no extra charge are a benefit to subscribers, who automatically receive the upgrade. With the rapid launch of its Digital Phone service across all of its 31 cable TV markets in 2004, Time Warner Cable has signed up 854,000 telephone customers by the end of Q3 2005, with 5% penetration of service-ready homes. In select markets, Time Warner Cable offers value pricing to bundle digital cable TV, Road Runner, and Digital Phone with its DIGIPic bundle packages. For example, in San Diego, Time Warner Cable offers its DIGIPic 1000 Trio Package with digital TV plus one premium movie channel, Road Runner broadband, and Digital Phone for \$129.95 a month. The company is usually among the first to market advanced services in the cable industry, and it has introduced HDTV, wireless home networking, and DVR in most of its cable systems. Time Warner Cable has enjoyed strong brand recognition for several years, and with the introduction of VoIP dialtone, is poised to be a one-stop wireline communication solution for consumers, with wireless services on the way for H1 2006 via Sprint.

But Time Warner Cable faces a few challenges. Despite being the second-largest cable operator, Time Warner Cable is overshadowed by industry behemoth Comcast. Only two years ago, Time Warner Cable was the broadband industry leader in terms of subscribers. Now, it has fallen behind Comcast, which acquired AT&T Broadband, and behind AT&T, which partnered with Yahoo! and cut prices to become the market leader among DSL providers. Once the industry's darling, Road Runner broadband service is being out-priced, and despite its affiliation with media giant Time Warner and leading ISP America Online, the carrier has yet to put together successful

content partnerships. In addition, Time Warner Cable needs to drop the price of its Digital Phone service by another \$5 to \$10 a month, and it needs to throw in voice mail free of charge. Otherwise, the cable provider will see the voice business go to third-party dialtone VoIP providers such as AT&T's CallVantage service and Vonage. Also, if Time Warner Cable wants to increase its subscriber market share, it needs to lower the base price of its broadband services to compete with DSL from the ILECs, especially now that Verizon offers its DSL services for as low as \$14.95 a month with online order and annual contract.

TIME WARNER ROAD RUNNER STRENGTHS

- Time Warner Cable's Road Runner service is available to about 19 million homes passed, since 98% of its cable network is broadband-ready. The company upgraded a large percentage of its network to support broadband Internet early on, which is one reason why it has grown to more than 4.76 million residential and business broadband customers.
- Time Warner has embraced cable open access, although it had little choice since regulators mandated the policy as part of the AOL-Time Warner merger approval. The provider's broadband Internet service is available with multiple ISPs besides Road Runner, including EarthLink and a number of regional providers. Time Warner Cable receives revenue if a customer signs up for one of its wholesale customers' Internet services on its cable broadband network.
- In December 2003, Time Warner Cable added VoIP telephone service to its existing suite of video and broadband services. Time Warner Cable has branded the service Digital Phone; it is now available in all of its 31 cable markets and offers its customers the triple play bundle option of digital TV cable, broadband, and voice.
- Road Runner promotes its broadband service with attractive incentives, such as discounted months of service and free/discounted installation that brings down the overall cost of the offering. For example, Road Runner is currently offering new customers in New York the first six months for \$29.95 a month, along with free self-installation and cable modem rental for the entire duration of the service.
- Time Warner Cable and Comcast have complementary goals from the Adelphia transaction. Each seeks to bolster its own footprint; Time Warner Cable is looking for growth and investment opportunities, and therefore inherits 7.5 million homes passed with just 3.5 million subscribers. Time Warner can use the opportunity finally to spin off its Time Warner Cable business as a separate public company, a long-anticipated move. On top of paying \$9.2 billion for its subscriber stake, it is compensating Adelphia's creditors with a 16% stake in Time Warner Cable.
- In H1 2006, the new combined offering from Sprint and Time Warner Cable should be able to tie content and features into a wireless delivery platform that will allow customers access to their cable video services from any location. New applications created include remote DVR access and dual network phones with access to the cable home VoIP connection and Sprint's traditional wireless service. Plus, Time Warner Cable will gain a nice advantage over satellite competitors through the Sprint joint venture. Satellite providers like DIRECTV and EchoStar, with its DISH Network, only have reseller type agreements in place with carriers like Verizon Wireless and Cingular.

TIME WARNER ROAD RUNNER WEAKNESSES

- Following DSL price cuts by competitors such as Verizon and AT&T in its local service territory, Road Runner is expensive (\$44.95 per month) in comparison to DSL that can be as

low as \$14.95 a month, depending on the market and the package of voice services a customer buys. Road Runner has given no indication that it intends to respond to DSL price cuts with any of its own.

- Time Warner Cable's Road Runner Premium (8 Mbps/512 kbps service) will not have a big impact on consumer sales, because the higher-tier service costs more than \$60 a month. The most popular consumer broadband DSL offerings are half the cost. There is not a substantial enough difference in performance between Road Runner's standard offering of 5 Mbps/384 kbps and the Premium service to merit charging \$25 more a month.
- Digital Phone, at \$39.95 to \$44.95 a month, is overpriced and lacks calling features that a converged IP environment enables. Consumer VoIP providers such as AT&T and Vonage offer unlimited VoIP calling at \$30 a month and less, without bundling requirements. Even without taking promotions into account, this compares unfavorably to similar plans from AT&T CallVantage (\$29.99 a month), Vonage (\$24.99 a month), and even Verizon's unlimited VoIP service (starting at \$29.95 a month).
- Time Warner Cable handed off millions of basic cable and broadband Internet customers to partner operator Advance/Newhouse, which, under the Bright House Networks brand, now manages the former Time Warner Cable properties in Bakersfield, CA, Indianapolis, and Tampa. The ownership transfer shrunk Time Warner's basic cable customer base by about 2 million.
- Individual Time Warner Cable systems have a strong local identity – sometimes too strong. Each service area has its own Web address and Web look and feel, along with varying promotional incentives. The carrier's operating units seem to lack a single, coherent corporate identity.

Verizon Communications		
Subscriber Data	Q305	Q205
<i>Total Voice Lines</i>	49,689,000	50,691,000
<i>DSL Subscribers</i>	4,531,000	4,142,000
<i>DSL Subscribers Added</i>	389,000	278,000
<i>DSL Subscriber Growth</i>	9.4%	7.0%
<i>Broadband Market Share (Rank)</i>	10.8% (4 th)	10.6% (4 th)

Verizon DSL is threatening to competitors due to its well-known brand name, its status as the incumbent local provider, and its increasing domination of the DSL market. Verizon has a total of 4.53 million broadband subscribers (the vast majority of which are DSL subscribers, and a smaller number of which are new fiber optic-based service customers) with 39.3% annual growth. Verizon's sheer size isn't the only reason its DSL service is threatening to other broadband providers, however. In August 2005, Verizon partnered with Yahoo! to add a new level of content to its DSL services, with complementary services including all-in-one security software, nine e-mail addresses with 2 GB of e-mail storage per account, unlimited photo storage, and LAUNCHcast commercial-free streaming radio. The new partnership also launched a new, cheaper DSL (768 kbps/128 kbps) service for \$14.95 a month with annual contract. Verizon's existing consumer DSL offering of 3 Mbps/768 kbps for \$29.95 a month with annual contract (\$19.95 for the first three months) also incorporates Yahoo! services. The role MSN continues to play with Verizon DSL is not entirely clear, since it is being replaced as the primary content provider and becomes a second choice for subscribers. Verizon DSL customers who choose to stay with MSN should not be surprised if the MSN partnership were eventually to dissolve, though that probably would not happen until at least the 2006-2007 time frame. Verizon offers a free DSL modem with WiFi gateway and router/firewall functions built in. Verizon also offers more

choices to bundle on top of unlimited local and long-distance and DSL, such as DIRECTV satellite video service, VoIP dialtone, and wireless. In September 2005, Verizon launched FiOS TV in Keller, TX, a suburban city 30 miles west of Dallas. Verizon is now taking customer orders for FiOS TV in Keller; service has become available in additional communities in Texas, Florida, and Virginia, and it is being rolled out across Verizon's footprint in the future. Based on Verizon's all-optical fiber-to-the-premises network, FiOS TV offers 180 digital video and music channels for \$39.95 a month, and can also support more than 20 high-definition channels and 600 video-on-demand titles, with 1,800 by year-end. Starting in 2004, Verizon passed about 1 million homes with FTTP in its first year, and is projecting that it will pass 3 million homes by the end of 2005. Verizon Online DSL Business entry offerings are Basic 768 kbps/128 kbps for \$24.95 a month, and Basic 3.0 Mbps/768 kbps ADSL for \$39.95 a month. Verizon's four other ADSL packages range from \$59.95 to \$234.95 a month, with higher prices for ADSL speeds that bundle a static IP address. Verizon's Business SHDSL pricing ranges from \$129.95 to \$299.95 a month, with five available speeds for bi-directional service ranging from 192 kbps to 1.5 Mbps.

Verizon has the most DSL-capable lines of any U.S. carrier (40.5 million access lines), but it has 1.96 million fewer DSL subscribers than AT&T, and 3.61 million fewer high-speed Internet subscribers than Comcast, the largest broadband provider. One reason why Verizon fell behind is because, until the launch of its 3 Mbps/768 kbps DSL service, Verizon only offered a 1.5 Mbps/384 kbps service, which was significantly slower than cable competitors offering over 3 Mbps downstream. Verizon needs to be wary of the push of cable providers offering triple play bundles, especially in the New York City area, where Cablevision sells a \$60-a-month double play of unlimited voice and broadband Internet and a \$90-a-month triple play that adds digital cable. On the business front, Verizon does not provide customers with service level guarantees for DSL, which are becoming more common among Verizon's CLEC competitors. Verizon's strategy of running fiber directly to homes and businesses will take longer and cost more than the hybrid fiber-to-the-node approach being taken by AT&T and BellSouth. Verizon is working to pass 2 million homes per year with FTTP, while AT&T is projecting that it will have triple play services available to 18 million customers in three years, by 2008.

VERIZON ONLINE DSL STRENGTHS

- Verizon Yahoo! for DSL is now one of the cheapest residential broadband services in the business next to fellow RBOC AT&T. Verizon's new 768kbps/128kbps DSL, at \$14.95 a month, will be highly attractive to dial-up cross-over buyers looking for a good value.
- The Verizon-Yahoo! deal appears to be more favorable than its expiring partnership with MSN. Verizon and Yahoo! will each bring their advertising channels to bear to help market the jointly branded service. Yahoo! will receive per-subscriber fees from Verizon, while Verizon will get a cut from DSL subscribers that purchase premium Yahoo! Services. It is also important to note that Verizon is not making the transition mandatory, and existing DSL customers may choose to stay with their existing Verizon MSN portal and services.
- Verizon is the largest incumbent local service provider in the U.S., combining a footprint covering 13 Northeast and Mid-Atlantic states, including parts of California, Florida, Hawaii, Idaho, Illinois, Indiana, Michigan, Montana, Nevada, North Carolina, Ohio, Oregon, South Carolina, Texas, Washington, and Wisconsin. Since it is such a large incumbent local carrier, Verizon has a very large addressable market. Roughly 80% of Verizon's 49.6 million access lines are now capable of supporting DSL service.
- Verizon offers a quadruple play bundle of services for residential users. Besides dial-up and broadband Internet, Verizon's services include conventional local/long-distance voice, consumer dialtone, VoIP, wireless service, and satellite TV through its partnership with DIRECTV. Verizon's Freedom bundle packages at the end of Q3 2005 had a total of 5 million business and residential users.

- Verizon made its small business DSL services more competitive on price. In April 2004, the carrier lowered the monthly price of its standard Business DSL 3 Mbps/768 kbps DSL services from \$89.95 to \$59.95 for dynamic IP addresses and from \$129.95 to \$79.95 for static IP addresses. Plus, Verizon doubled the speed of its basic ADSL offering to match the speeds of its standard Business DSL 3 Mbps/768 kbps DSL services for \$39.95 a month. And in August 2005, it introduced an entry-level service (768 kbps/128 kbps) for \$24.95 a month targeted at business dial-up users. Small business is a growth market for DSL, and lowering its prices shows Verizon is focused on building this market.
- Verizon offers a range of SHDSL and ADSL connections, with speeds ranging from 192 kbps to 7.1 Mbps. While residential customers are offered just two service options, Verizon business customers can choose from 11 DSL business services – one of the broadest selections in the industry.

VERIZON ONLINE DSL WEAKNESSES

- Verizon's 3 Mbps/768 kbps service, at \$29.95 a month, is a good value, but competitors such as Cox and Comcast have broadband services that reach into 4-6 Mbps download speeds. The actual bandwidth pipe available across DSL varies depending on conditions, such as line quality and distance between the customer and the central office, meaning Verizon customers may be getting far less than 3 Mbps/768 kbps peak bandwidth – a problem that cable broadband Internet does not have.
- Despite being the largest incumbent local carrier, with a service territory that includes four of the top ten largest U.S. metropolitan areas, as of the end of Q3 2005, Verizon had 1.96 million fewer DSL subscribers than fellow incumbent local carrier AT&T, which has a smaller service territory. This shows Verizon hasn't been able to get its DSL subscriber momentum going when compared to AT&T's SBC Yahoo! DSL. Verizon could be accused simply of copying AT&T's strategy to partner with Yahoo! and offer the same low entry-level price of \$14.95 a month.
- Verizon's switch from MSN Premium to Yahoo! as its consumer ISP partner does little to change the core ISP applications used by consumers. The two ISPs offer a similar set of features including multiple e-mail accounts, Web mail access, anti-virus and spam protection, parental controls, personal Web space, and loads of broadband content. Verizon will be hard pressed to spark excitement in this new content partnership when a similar one already exists.
- In June 2004, New York City rival Cablevision began offering its triple play bundle of video, data, and voice services for the cheap price of \$90 per month. As Time Warner and Comcast ramp up their bundles with discounted voice service, Verizon could well be the major incumbent local carrier to bear the initial brunt of a "triple play" bundling price war with the cable providers. Cablevision's bundle pricing strategy essentially gives away unlimited phone service for free with video and Internet service.
- Verizon requires DSL business customers to sign an annual contract, which threatens them with a \$100 to \$500 penalty for early cancellation. These kinds of contracts displease small business owners who do not like being locked into long-term agreements that might hurt their business prospects to move or expand.

NOTES

Unless otherwise indicated, all graphs and charts in this report are compiled from Current Analysis research. Subscriber data is primarily gathered from broadband carriers' financial reports (where available).

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