

# U.S. VOIP RESEARCH SERVICE

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## TeleGeography Research

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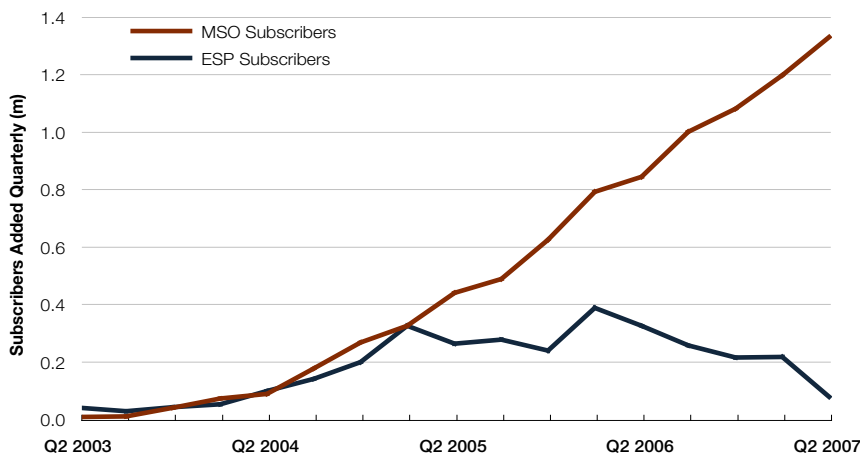
[www.telegeography.com](http://www.telegeography.com)

# Executive Summary

VoIP telephone service, which only recently was a technological novelty, has emerged as a mainstream consumer service. The number of VoIP subscribers soared from 6.5 million in mid-2006 to 11.8 million in mid-2007—equivalent to 10 percent of U.S. households. VoIP service revenues totaled \$2.6 billion in 2006 and are on track to reach \$4.9 billion in 2007.

While VoIP telephony has been embraced by consumers seeking lower-cost telephone service, it presents a serious challenge to incumbent telephone service providers and to the entire system of regulations governing the U.S. telecom market. TeleGeography's *U.S. VoIP Research Service* provides a clear overview of the state of this fast growing market and an outlook through 2011.

**FIGURE 1**  
 Net Subscriber Additions: ESP versus MSO VoIP, Q1 2003-Q2 2007

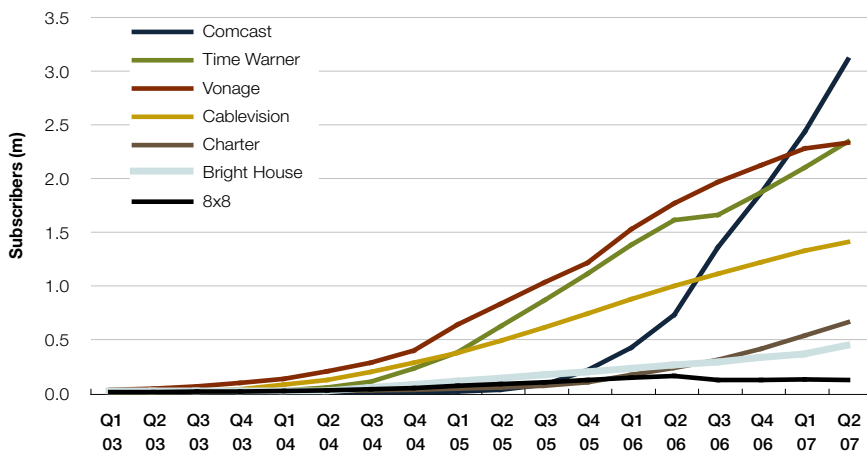


Notes: MSO VoIP refers to residential VoIP services offered by cable MSOs. ESP VoIP refers to residential VoIP service offered by all other service providers, including pure enhanced service providers (e.g., Vonage) and traditional carriers (e.g., Verizon).

Source: TeleGeography research

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**FIGURE 2**  
U.S. VoIP Subscribers by Service Provider, Q1 2003-Q2 2007



Source: TeleGeography research

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## VoIP Service Providers and Revenues

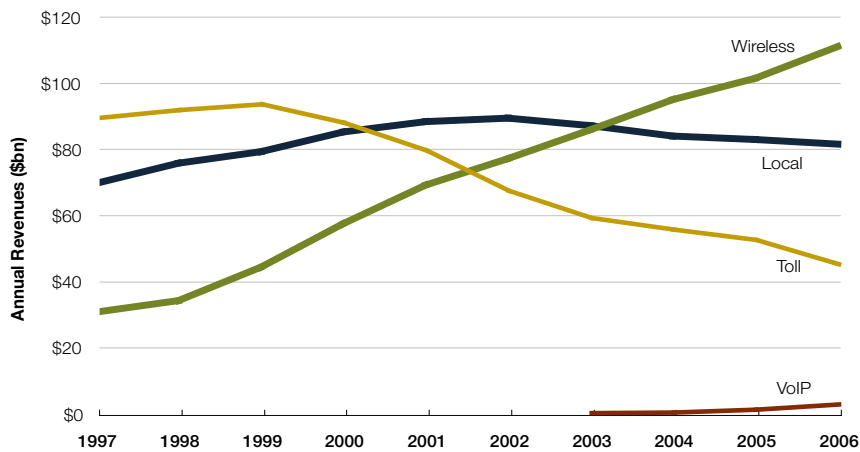
TeleGeography distinguishes between two broad categories of consumer handset-based VoIP service providers: the major cable companies (often called “multiple system operators,” or MSOs) and network-independent service providers (sometimes also described as “enhanced service providers,” or ESPs). Network-independent service providers include independent companies like Vonage and 8x8, as well as the VoIP services of the incumbent telephone companies, AT&T, Verizon, and Qwest.

Network-independent service providers, such as Vonage, were the pioneers of the consumer VoIP market. Vonage launched its consumer VoIP service in April 2002, followed by 8x8 in November 2002. At mid-year 2007, network-independent service providers had 3.1 million subscribers and were on track to generate over \$1 billion in revenues in 2007.

Despite this apparent success, network-independent operators have struggled to make their business model work. Growth in net subscriber additions began to slow in the second quarter of 2006, and fell sharply in the second quarter of 2007, as both Vonage and SunRocket, the second largest network-independent service provider, cut their marketing budgets (see Figure 1. Net Subscriber Additions: ESP versus MSO VoIP, Q1 2003-Q2 2007). In July 2007, SunRocket abruptly ceased operations, stranding approximately 200,000 subscribers without prior warning. While Vonage’s situation is less dire, the company’s stock has fallen from an opening price of \$17 per share in May 2006 to just over \$2 per share in August 2007.

While the recent growth of enhanced service providers has been anemic, some of the pessimism surrounding the sector may be exaggerated. Network-independent service providers served nearly 3 percent of U.S. households at mid-year 2007. Moreover, anecdotal evidence suggests that a large share of SunRocket’s former subscribers have ported their service to other stand-alone VoIP service providers rather than returning to traditional switched service. Recent trends are disheartening, but it’s premature to write an obituary for the network-independent business model. Nevertheless, the struggles of network-independent providers stand in stark contrast to the robust health of cable MSOs’ IP telephony business.

**FIGURE 3**  
U.S. Wireline, Wireless, and VoIP Revenues, 1997-2006



Notes: Data reflect revenues from end-users only; wholesale revenues are excluded. "Toll Service" revenue includes domestic and international long-distance call revenues.

Source: TeleGeography research

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Cable TV and broadband service providers—Multiple System Operators, or MSOs—are the second major category of VoIP service providers. Unlike most ESPs, cable MSOs own the broadband circuits into their customers' homes and use this managed-IP connection to provide voice service. While cable companies' phone service is transported via Internet Protocol, it is not transmitted over the Internet, allowing cable companies greater control over the quality of service. Also, unlike network-independent providers, cable companies typically market a bundled communications service package that combines voice, video, and broadband Internet access.

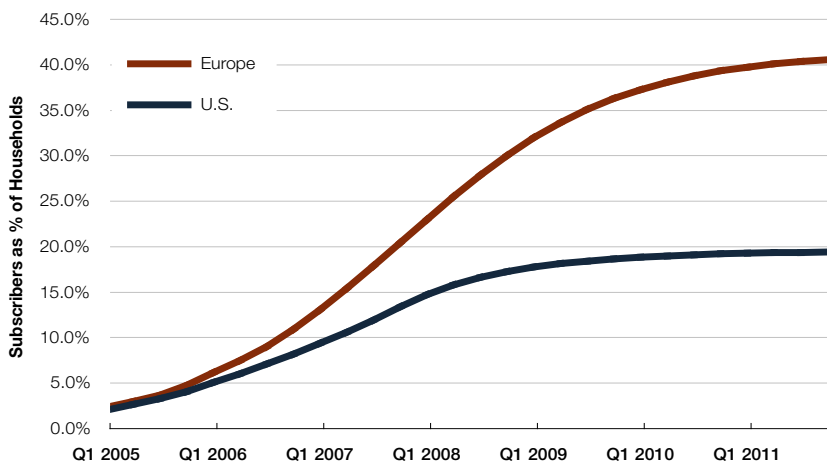
After a slow initial start, cable MSOs have emerged as the leading providers of IP-based voice services. Cable operators had 8.7 million VoIP subscribers (approximately 74 percent of all VoIP subscribers) at the end of Q2 2007, up from 4.1 million subscribers at mid-year 2006. Comcast, by far the largest MSO in the U.S., overtook Vonage as the largest consumer VoIP service provider in the U.S. in Q1 2007. In Q2 2007, TimeWarner, the second largest MSO, edged out Vonage to become the second largest U.S. consumer VoIP service provider (see Figure 2. U.S. VoIP Subscribers by Service Provider, Q1 2003-Q2 2007).

The number of residential lines served by incumbent phone companies—one of their main profit centers for the telecom industry since the days of Alexander Graham Bell—has been declining steadily since 2001, as consumers have cancelled second phone lines or opted for wireless voice service. Revenues from consumer VoIP service are growing rapidly, but still trail far behind traditional switched voice revenues (see Figure 3. U.S. Wireline, Wireless and VoIP Service Revenues, 1997-2006). However, competition from IP-based voice services will ratchet up the pressure on an industry that is already under strain.

## Computer-Based VoIP

TeleGeography's *U.S. VoIP Research Service* focuses on communications services that serve as a complete replacement for the incumbent telephone companies' traditional handset-based fixed line telephone service. This focus on handset-replacement services is not due to a sentimental attachment to traditional telephones—in fact, TeleGeography's research staff relies on computer-based

**FIGURE 4**  
VoIP Development in Europe Versus U.S., 2005-2011



Notes: MSO VoIP refers to residential VoIP services offered by cable MSOs. ESP VoIP refers to residential VoIP service offered by all other service providers, including pure enhanced service providers (e.g., Vonage) and traditional carriers (e.g., Verizon).

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voice and IM services to communicate with colleagues and clients on a daily basis. However, our analysis shows that handset-based services have a far greater near-term impact on voice revenues than computer-based services. While U.S. handset-based VoIP service providers will collect nearly \$5 billion this year, eBay's Skype division is on track to generate only \$30 million in revenues from U.S. users in 2007.

## A Look Abroad and a Look Ahead

TeleGeography projects that U.S. consumer VoIP subscribers will reach 15.2 million by the end of 2007 and 23.3 million by the end of 2011. While impressive, U.S. VoIP subscriber growth falls well short of the torrid growth of VoIP services in Europe (see Figure 4. VoIP Development in Europe versus U.S., 2005-2011).

Both markets experienced similar growth patterns over the first few years of development, but began to diverge in 2006. Several key factors help account for Europe's much more rapid VoIP service growth, including freer access to incumbents' local copper loops, more aggressive competition and pricing, and the active participation of incumbent operators in the VoIP market. In Europe, incumbent service providers accounted for 26 percent of VoIP subscribers, while U.S. incumbents have remained largely on the sidelines. Assuming that these factors remain in place, TeleGeography projects that by 2011, VoIP penetration in Europe will be approximately twice as great as in the U.S. Though VoIP will cost U.S. incumbents billions of dollars in revenues, VoIP hardly presents a mortal danger to RBOCs' financial viability. However, the European market shows how the right set of regulatory conditions could pave the way for radical industry change.

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