Executive Summary

Fixed-line voice services have been the foundation of the telecom industry for more than a century and have served as the cash cow used by incumbent service providers to diversify into myriad new markets. Consequently, the idea that upstart rivals across Europe are now providing "free" voice service to their broadband and video subscribers may terrify old-line telecom companies. However, IP-based telephone services are a hit with consumers and have made the European fixed-line voice market, once an island of stability in a turbulent industry, into a fiercely competitive sector.

After a slow initial start, European consumers have adopted IP-based voice service at a blistering pace. At year-end 2007, 25.3 million consumer voice-over-IP (VoIP) lines were in service in Europe, up from 15 million in 2006. VoIP services' rapid growth, and their potential to reshape the telecom industry in the years ahead, have made VoIP one of the most hotly debated, but least understood, topics in the telecom industry. TeleGeography's *European VoIP Research Service* seeks to provide a clear overview of the state of this rapidly changing market, and its impact on the European telecom landscape.

FIGURE 1
VoIP Subscriber and Revenue Growth, 2004-2007

Source: TeleGeography Research

The *European VoIP Research Service* consists of three sections. This first section provides an overview of aggregate VoIP market trends throughout Europe. This is followed by in-depth profiles of the state of the market, including subscribers, revenues, market shares, and forecasts for each of thirteen key countries: Austria, Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. Two European countries—Finland and Ireland—are not profiled in the current study because there have not been any meaningful deployments of consumer VoIP services to date in these countries. The third section of this research service provides profiles of 73 leading European voice-over-IP service providers, from Arcor to ZON Multimedia.

Market Trends

Voice-over-IP services have grown rapidly in Europe. At the end of 2004, only 1.9 million VoIP lines were in service, equivalent to just over 1 percent of European households. By the end of 2007, VoIP subscribers had grown to 25.3 million lines, accounting for 17 percent of households.

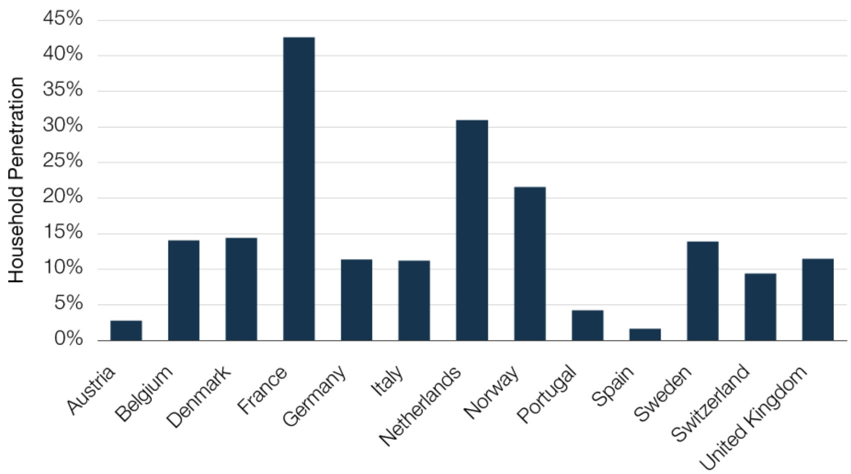
The VoIP subscriber growth rate has slowed in recent quarters, but net subscriber growth remains very high. The number of quarterly subscriber additions grew from approximately 1 million subscribers per quarter throughout most of 2005 to 2 million subscribers in much of 2006, and averaged 2.6 million subscribers per quarter in 2007. Revenues from VoIP services have grown at a comparable pace. Annual revenues from consumer VoIP services were €640 million in 2005, €1.6 billion in 2006, and €2.9 billion in 2007. Given current growth patterns, VoIP revenues should top €3.9 billion in 2008.

VoIP telephony services have rapidly gained acceptance in many of the countries profiled in this study. VoIP growth in France has been particularly spectacular: at year-end 2007, France had 10.8 million IP telephony subscribers, comparable to the total number of subscribers in Germany, the U.K., the Netherlands, and Italy combined. France accounted for 43 percent of Europe's 25.3 million IP telephony subscribers at the end of 2007.

However, VoIP service adoption varies widely by country. While 43 percent of French households subscribed to a VoIP telephony service at the end of 2007, only 3 percent of Austrian households and less than 2 percent of Spanish households had such a service.

FIGURE 2

VoIP Penetration of Households by Country, Q4 2007



Source: TeleGeography Research

VoIP Service Providers

The *European VoIP Research Service* focuses on "handset replacement services," that is, voice communications services that are designed to replace traditional circuit-switched fixed-line telephone services. TeleGeography distinguishes between four types of companies offering a replacement for switched telephone services in Europe: incumbent fixed-line operators, competitive DSL service providers, cable TV operators, and network-independent service providers.

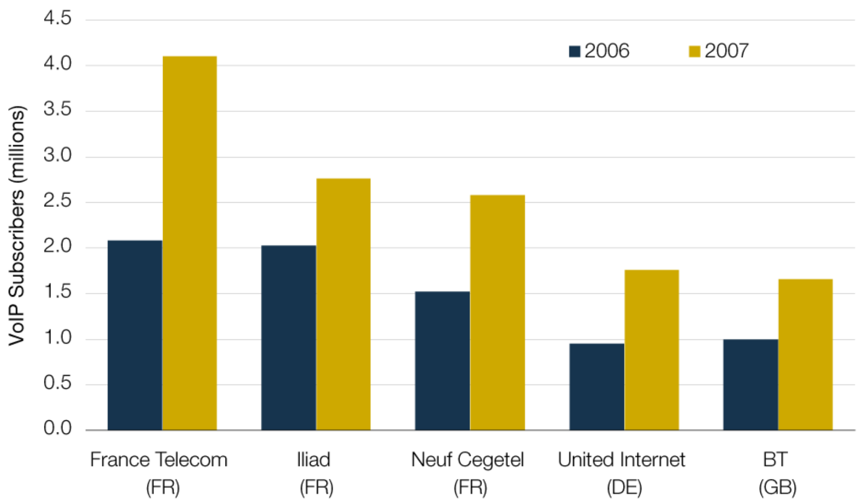
DSL providers are the largest category of VoIP service provider, accounting for 49 percent of European VoIP subscribers at year-end 2007. Competitive DSL providers account for the majority of consumer VoIP subscribers in France and Germany, the two largest European VoIP markets, and have strong footholds in many other markets. However, this pattern is not seen all across Europe. In Switzerland and Belgium, for example, 88 and 87 percent of VoIP subscribers, respectively, obtain their service from cable companies, and network-independent service providers have a meaningful share of the VoIP market in Norway and Denmark.

A growing number of European incumbent operators have responded to the challenge by introducing their own VoIP service, both in their home country and in neighboring countries. Among the most aggressive have been France Telecom, BT, KPN, and Telecom Italia. By the end of 2007, France Telecom was the largest VoIP service provider in Europe, and incumbents accounted for 33 percent of all European VoIP subscribers (see Figure: Top Five European VoIP Providers, 2006-2007).

What impact have computer-based VoIP services, such as Skype, had on the European voice market? While Skype has far more subscribers in Europe than handset-based VoIP providers, the revenues and traffic volumes generated by Skype's subscribers are far more modest. TeleGeography estimates that Skype's European subscribers generated approximately 19 billion minutes of total (PC-to-PC and PC-to-phone) traffic in 2007, compared to 89 billion minutes of traffic generated by handset-based service providers.

FIGURE 3

Top Five European VoIP Providers, 2006-2007



Source: TeleGeography Research

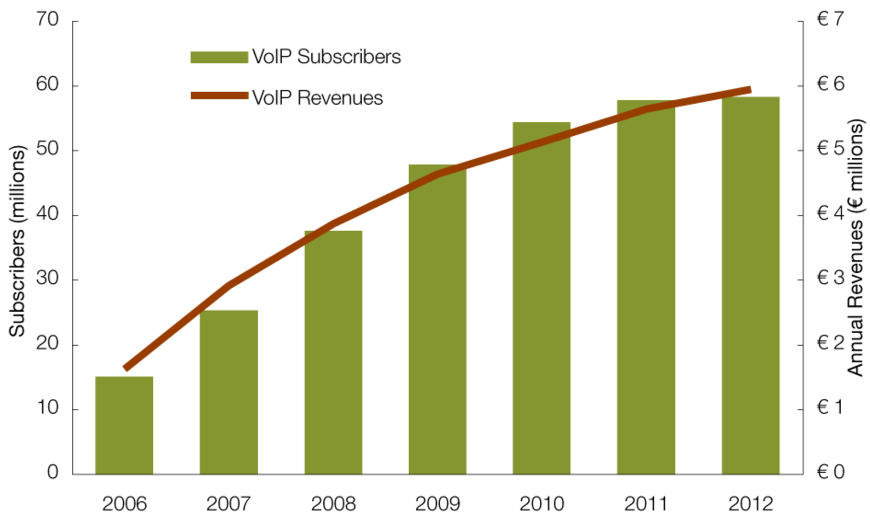
Of course, it is not entirely appropriate to compare Skype to a multitude of European VoIP service providers. Skype is just one company pursuing a unique business model with a good deal of success. In fact, by TeleGeography's estimates, Skype had more than twice as many subscribers in Europe as the most successful fixed-network VoIP service provider (and seven times more, globally). However, the key point is that the near-term impact of Skype and comparable services on the traditional fixed-line business is significantly more modest than that of network-based VoIP competitors.

VoIP Subscriber & Revenue Projections

Given their rapid growth in the past three years, European VoIP providers have emerged as a powerful force in the European fixed-line market. VoIP subscribers accounted for 20 percent of aggregate (switched and VoIP) residential fixed-line subscribers and 8 percent of revenues from residential fixed lines in 2007. TeleGeography projects that VoIP subscribers in western Europe will grow from 25.3 million at the end of 2007 to 37.6 million by the end of 2008, and will reach 58 million by 2012 (see Figure: European VoIP Subscriber and Revenue Projections, 2006 – 2012). This growth would drive VoIP penetration from 16 percent of households at year-end 2007 to 37 percent of households by year-end 2012.

FIGURE 4

European VoIP Subscriber and Revenue Projections, 2006-2012



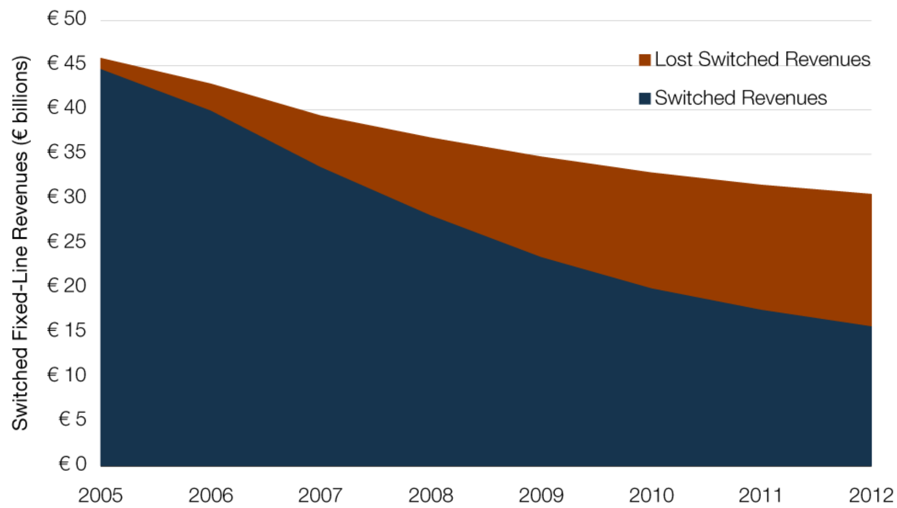
Source: TeleGeography Research

Since VoIP service providers charge far less for their service than traditional operators, they generate less revenue than their switched counterparts. Western European VoIP service providers generated approximately €2.9 billion in 2007, a sum that is projected to increase to €5.9 billion in 2012. Compared to revenues from traditional, fixed-line phone services, VoIP revenues are quite small.

The impact of VoIP services on the fixed network market will be out of proportion to VoIP revenues, due to the impact of VoIP services on voice service pricing in Europe. Many VoIP subscribers use inexpensive VoIP services as a replacement for more expensive switched telephone services. Incumbents in many European countries have responded by offering low-cost VoIP services themselves, or by slashing the price of their switched telephone services (or both). While these measures will help incumbents retain fixed-network subscribers, they will also reduce their revenues from residential switched voice services. TeleGeography projects that revenues from residential switched telephone services in Europe will decline from €33.6 billion in 2007 to €15.7 billion in 2012 (see Figure: VoIP Effect on Switched Residential Revenues, 2005-2012).

FIGURE 5

VoIP Effect on Switched Residential Revenues, 2005-2012



Source: TeleGeography Research

Europe vs U.S.

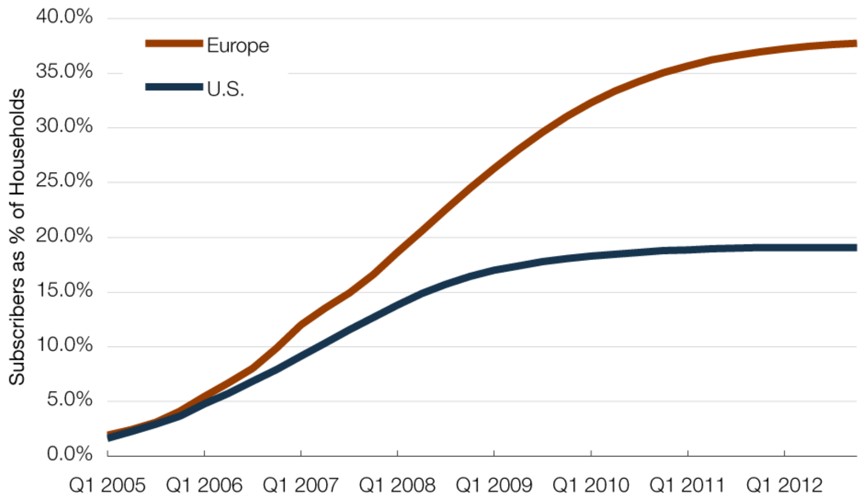
A comparison of the European and U.S. VoIP markets reveals distinctly different growth trajectories. Both markets experienced similar growth patterns over the first few years of development, but began to diverge in 2006. What accounts for the difference between the uptake of VoIP telephony services in the two regions? Given how different each national market is in Europe, no single factor can account for the difference. However, several factors may explain the difference:

- **Pricing**. Dual-play and triple-play services are generally priced more aggressively in Europe than in the U.S. The median price of a triple-play bundle among carriers surveyed by TeleGeography was €48, approximately 40 percent less than triple-play packages in the U.S.
- **Market structure**. Due to regulatory mandates, competitive service providers in Europe have ready access to incumbents' local copper loops at regulated rates. These mandates have resulted in the emergence of a competitive broadband industry in Europe. European consumers can choose between multiple broadband and VoIP service providers. In the U.S., consumers' only alternatives to incumbent providers are cable companies and network-independent providers such as Vonage.
- **Active participation by incumbents**. In Europe, incumbent service providers accounted for 33 percent of VoIP subscribers. Many incumbents, including Telefonica, France Telecom, and Swisscom, also compete actively in neighboring countries. In contrast, U.S. incumbents have thus far remained largely on the sidelines.

Assuming that these factors will remain in place, we project that European consumer adoption will continue to outpace U.S. adoption of IP telephony services. Based on current market trends, TeleGeography projects that 37 percent of European households will have VoIP phone service by 2012, compared with less than 20 percent of U.S. households (see Figure: U.S. and European VoIP Subscriber Penetration, 2005-2012).

FIGURE 6

U.S. and European VoIP Subscriber Penetration, 2005-2012



Source: TeleGeography Research

TeleGeography Research.

A Division of PriMetrica, Inc.

Washington, D.C. / San Diego / Exeter

U.S. tel: +1 202 741 0020 / U.K. tel: +44 1392 315567.

www.telegeography.com

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