

# Executive Summary

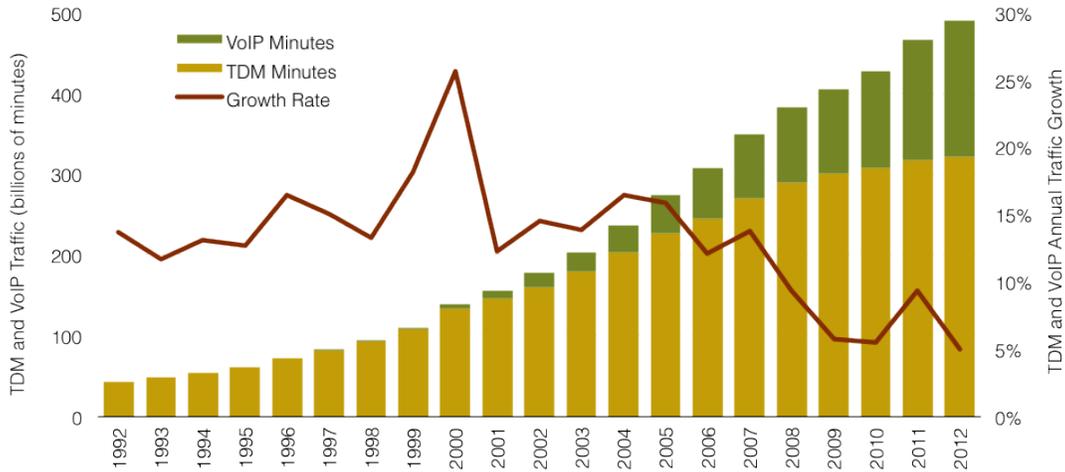
Few industries have experienced more wrenching changes than the international long-distance business. Over the past two decades, service providers have weathered market liberalization, the enormous telecom market bubble and its aftermath, intense competition, rapid technological innovation, and non-stop price declines. Throughout these years of market turbulence, continuous double-digit traffic growth helped the industry to eke out modest revenue gains in most years. However, even greater challenges lie ahead: traffic growth is slowing, just as telcos must come to grips with competition from software based computer and smartphone applications, such as Skype and Google Voice, and make difficult decisions about investments in new infrastructure. The *TeleGeography Report* analyzes and quantifies the state of the international long-distance industry and assesses the factors that will shape it in the years ahead.

## Traffic

Over the past 20 years, international voice traffic has grown at a compounded rate of just over 13 percent annually. Growth was especially rapid during the late 1990s and early 2000s due to a confluence of factors. A wave of market liberalization, which peaked in 1998, brought new entrants to the market, resulting in sharp declines in international calling rates. Mobile phones emerged as a mass market product and gained hundreds of millions of new subscribers, creating new opportunities for consumers and business people to make calls. Calling cards and pre-paid services made international communications affordable to low-income immigrants, spurring call growth to developing countries in particular. Traffic growth peaked at 25 percent in 2000 before returning to growth rates of 12-16 percent annually, in line with historical trends. Volume growth slowed to 9 percent in 2008, and has remained in the single digits since.

Total international voice traffic grew 9 percent in 2011, to 467 billion minutes. Traditional time division multiplexed (TDM) international traffic grew 3 percent, to 317 billion minutes, while traffic carried as Voice over IP (VoIP) grew 25 percent, to 150 billion minutes. TeleGeography estimates that global traffic grew 5 percent in 2012, to 490 billion minutes—34 percent of which were transported as VoIP (see Figure: International Call Volumes and Growth Rates, 1992-2012).

**FIGURE 1**  
**International Call Volumes and Growth Rates, 1992-2012**



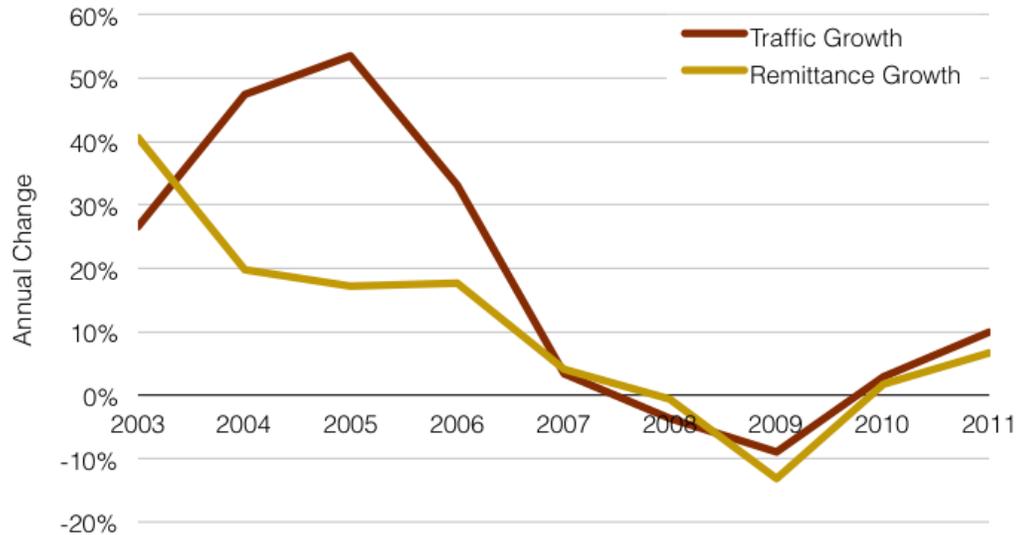
Notes: Data for 2012 are projections based on preliminary data. VoIP traffic reflects international traffic transported as VoIP by carriers, and excludes PC-to-PC traffic.

Source: TeleGeography

© 2013 PriMetrica, Inc.

What accounts for the recent slowdown in traffic growth? One factor is the deep recession of 2007-2009, which affected both business demand and consumers' ability to pay for international calls. International migration has been a particularly important driver of traffic growth from the U.S. to Central America. The rapid expansion of the U.S. housing market in the 2000s provided ample employment for migrant workers, leading to sharp increases in both international voice traffic and remittance payments to Central America. The collapse of the U.S. housing market, and the deep recession that began in late 2007, had a clear impact on both remittance payments and international call volumes to Central America. Call volumes and remittance payments resumed growth in 2010, but remain well below historical trends (see Figure: Change in Traffic and Foreign Remittances to Central America, 2003-2011).

**FIGURE 2**  
**Change in Traffic and Foreign Remittances to Central America, 2003-2011**



Source: TeleGeography, World Bank

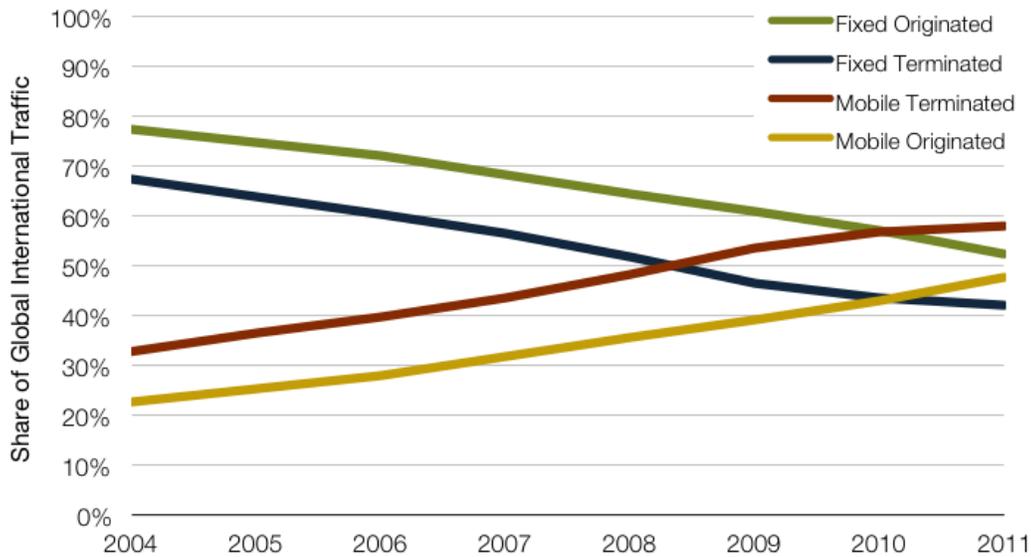
© 2013 PriMetrica, Inc.

Economic conditions are not the only challenge confronting the international calling market. While demand for cross-border communications has not declined, hundreds of millions of consumers have discovered that they can communicate without the service of a telco. Increasingly, callers are turning to software-based communications applications on computers and mobile devices to keep in touch with personal and business contacts, and the share of international traffic routed via computer-to-computer VoIP services has skyrocketed. Cross-border traffic routed via Skype, by far the largest provider of “over-the-top” (OTT) communications service, is projected to grow by an astonishing 51 billion minutes in 2012 reaching 167 billion minutes. If Skype’s traffic were added to the volume of international phone calls, international voice traffic would have grown 13 percent in 2012.

## Mobiles

Mobile operators and their subscribers are a key driver of the international calling market. The number of mobile phones in service overtook the number of fixed lines in 2002. By 2011, mobiles accounted for 83 percent of total global phone lines, 43 percent of originated international call traffic, and 58 percent of terminated international traffic (see Figure: Fixed and Mobile Share of International Traffic, 2004-2011).

**FIGURE 3**  
**Fixed and Mobile Share of International Traffic, 2004-2011**



Source: TeleGeography

© 2013 PriMetrica, Inc.

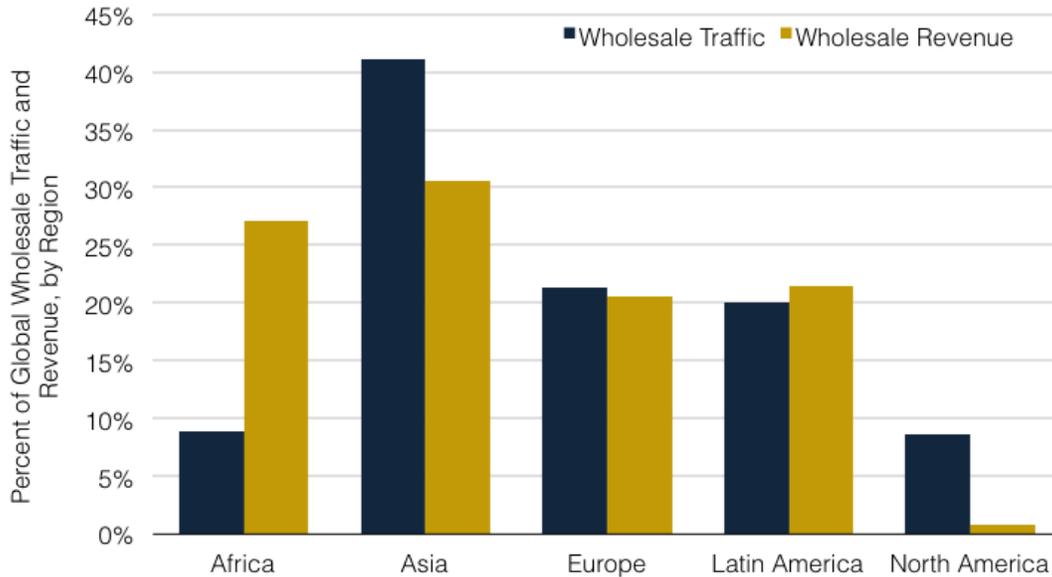
Mobiles play a particularly important role in the wholesale market. In 2011, mobile-terminated calls accounted for 62 percent of wholesale traffic, and 82 percent of wholesale carrier revenues. Mobiles account for a disproportionately large share of wholesale revenues because mobile network interconnection rates (the per-minute fees carriers pay to destination network operators to terminate calls on their networks) are often several times higher than fixed-network termination rates. The high cost of mobile interconnection has attracted the attention of regulators, and carriers in many countries are being required to reduce their mobile network interconnection rates to levels more in line with fixed-network charges.

## Wholesale

The international wholesale voice market has become highly developed in the past decade, greatly increasing its efficiency. Traffic terminated by wholesale carriers grew 11 percent in 2011, to 293 billion minutes, or 63 percent of total international call traffic.

Wholesale traffic and revenues are not distributed evenly around the world, instead, certain regions account for disproportionate shares of each. For example, 82 percent of traffic to Sub-Saharan Africa and South America, and 77 percent of traffic to Central Asia, was routed via wholesale carriers. Conversely, only 43 percent of traffic to western Europe—and just 33 percent of traffic to fixed lines in western Europe—was terminated by wholesale carriers. Wholesale revenues are distributed even more unevenly—just 40 destination countries account for 63 percent of global wholesale revenues. Calls terminated in Africa accounted for just 9 percent of global wholesale traffic in 2011, but 27 percent of revenues. Conversely, calls to Asia generated 41 percent of wholesale traffic but only 31 percent of revenues, due to very low termination costs to large destinations such as China and India.

**FIGURE 4**  
**Share of Global Wholesale Traffic and Revenue by Region, 2011**



Source: TeleGeography

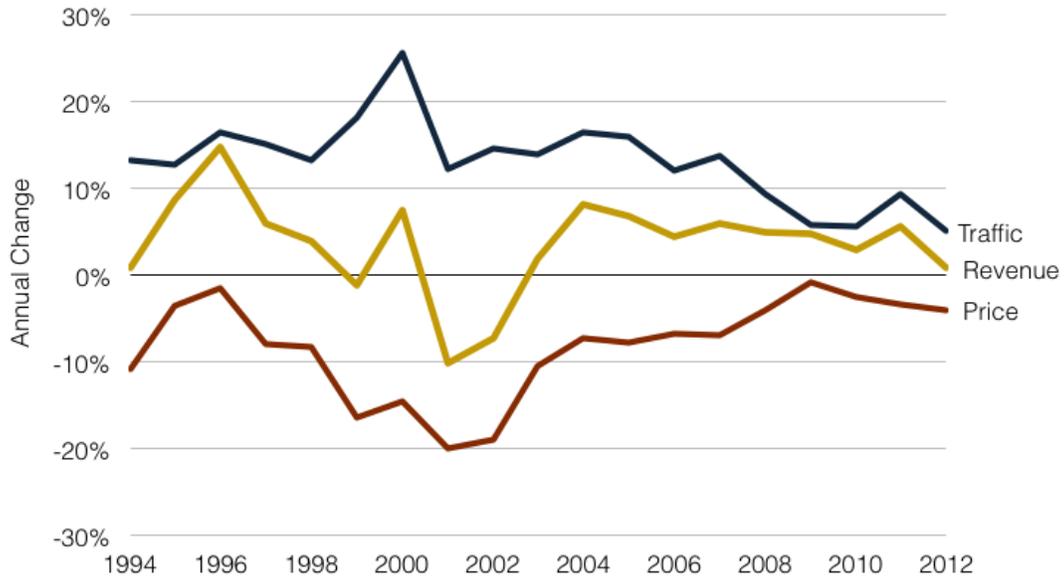
© 2013 PriMetrica, Inc.

Average wholesale prices have fallen at a compounded rate of approximately 8 percent annually since 2002. Wholesale traffic grew rapidly enough to offset these steady price declines until 2008, when revenues reached \$13.2 billion. While wholesale traffic has grown 30 percent since, wholesale revenues have remained effectively flat, ending with \$13.2 billion of revenue in 2011.

## Prices & Revenues

Global retail revenue increased 6 percent between 2010 and 2011, from \$90.3 billion to \$95.4 billion. This was spurred by a 9 percent uptick in traffic growth, which was somewhat offset by price declines of 3.3 percent. Retail volume growth and price declines are in a delicate balance globally. In recent years, traffic growth has been sufficient to offset price decreases, and industry revenues from retail services have held steady. If over-the-top communications services take a larger bite out of traffic growth, or if retail service providers (particularly mobile operators) are no longer able to maintain prices, revenues will fall (see Figure: Global Traffic Rate of Price Decline versus Volume Growth, 1994-2012).

**FIGURE 5**  
**Global Traffic Rate of Price Decline versus Volume Growth,**  
**1994-2012**



Notes: Data for 2012 are projections.

Source: TeleGeography

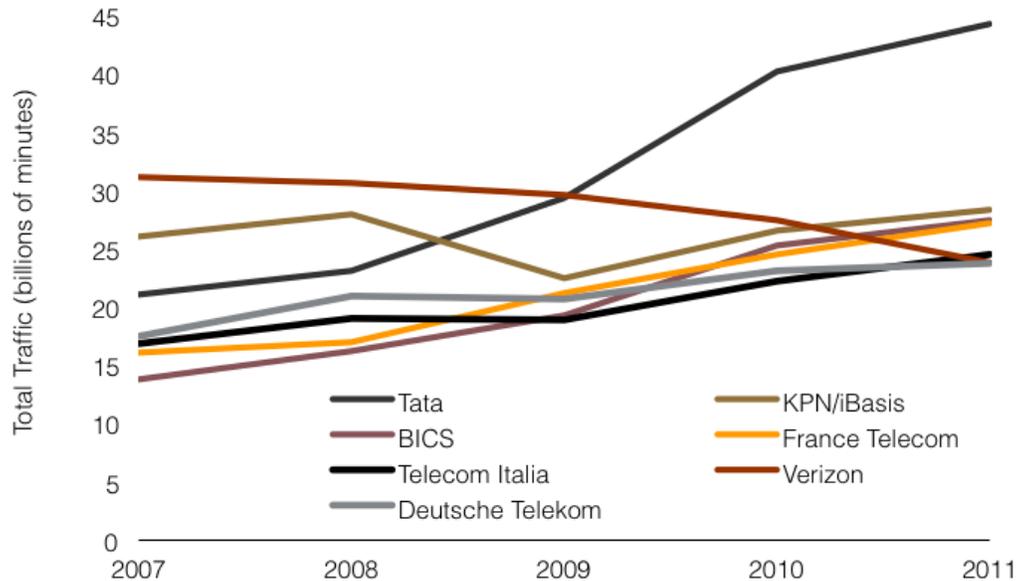
© 2013 PriMetrica, Inc.

## Carriers

Carriers are pursuing a range of strategies for dealing with the difficult circumstances of the international telecom market. Some have chosen to focus on specific geographic markets such as Sub-Saharan Africa, the Middle East, or Eastern Europe and Central Asia. Other carriers are countering price declines by building volume and seeking to achieve ever greater economies of scale. Most notably, Tata, BICS, and iBasis have sought to position themselves as consolidators of the international long-distance market. These carriers have achieved significant volume gains through a combination of mergers and acquisitions, multi-year outsourcing contracts with other telcos, and aggressive business development.

Conversely, Verizon, long the world's largest voice carrier, has taken the opposite approach, deliberately allowing volumes and gross revenues to decline in pursuit of higher margins. If present trends in the international voice market continue—and TeleGeography believes they will—a growing number of carriers can be expected to opt for a strategic retreat from the international voice market.

FIGURE 6  
Traffic Volumes of Top Carriers, 2007-2011



Source: TeleGeography

© 2013 PriMetrica, Inc.

## Outlook

The international voice market is well over a century old. While the days of steady growth lie in the past, the industry won't fade away anytime soon. TeleGeography projects that carrier-transported international voice traffic will grow 4 to 5 percent annually between 2013 and 2017. However, challenging years, and difficult decisions, lie ahead for international carriers.

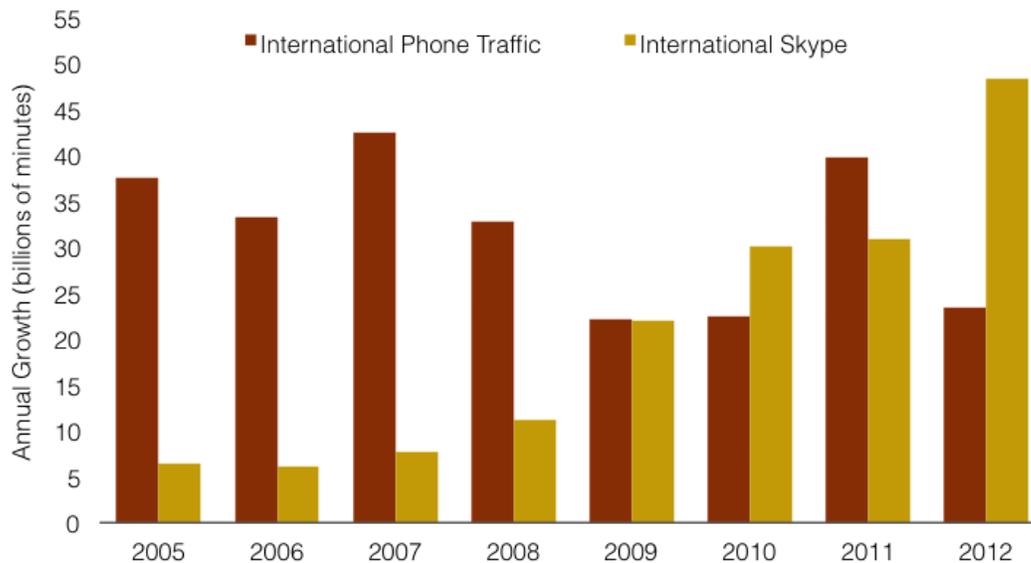
**International voice  $\neq$  international phone calls.** Hundreds of millions of people have found that they can dispense with the services of their telco, preferring to use “over-the-top” voice, video, and text communications applications on their computers or mobile devices. Skype has long been the bellwether of this market, and while the company is now long past its start-up phase, its traffic growth remains astonishing. TeleGeography estimates that Skype's international on-net traffic grew by 44 percent, or 51 billion minutes, in 2012—more than twice the volume growth achieved by all the phone companies in the world *combined*.

Not all of Skype's traffic represents a loss for telcos. Over 40 percent of Skype's traffic is now video, and it's likely that a meaningful share of this is “new” traffic, rather than a direct replacement for a telephone call. However, given their enormous traffic volume, it's difficult not to conclude that at least some of Skype's growth is coming at the expense of traditional carriers. If all of Skype's on-net traffic had been routed via traditional telcos, global cross-border telephone traffic would have increased 14 percent in 2011 and 13 percent in 2012—in line with growth rates of a decade ago.

The popularity of communications applications is soaring as smartphones become ubiquitous. Skype's iOS and Android apps had both been downloaded more than 100 million times as

of November 2012, as had the Android version of WhatsApp, a popular messaging service. Other leading mobile communications applications include Google (Talk and Voice), Viber, Nimbuzz, WeChat (Weixin), Line, and KakaoTalk. Perhaps most ominously for telcos, Facebook integrated voice communications into its Messenger service in January 2013.

**FIGURE 7**  
Increase in International Phone and Skype Traffic, 2005-2012



Notes: ILD traffic reflects TDM and VoIP. Skype traffic growth reflects Skype-to-Skype traffic, including video calls. Skype calls to the PSTN are excluded.

Source: TeleGeography

© 2013 PriMetrica, Inc.

**The era of double-digit annual growth is over.** The key drivers of growth over the past 20 years were price declines, brought about by competition and mobile termination rate cuts; the expansion of mobile phone service to developing countries, which connected billions of people to the PSTN for the first time; and innovations such as prepaid services, which helped to make telecom services available to lower income users. However, after two decades of continuous price reductions, and with global mobile penetration approaching 90 percent, the incremental effectiveness of further price cuts on subscriber growth is wearing off. While TeleGeography projects that international voice traffic will grow 4-5 percent annually through 2017, international call revenues will remain flat in nominal terms and decline in inflation-adjusted terms. International voice is becoming a “zero-sum game”—one in which carriers can only achieve growth by taking business away from rivals.

**Further price declines loom.** Regulatory pressure is driving down the mobile network interconnection rates that carriers pay to connect calls to mobile networks in countries around the world. These interconnection rates are largely a pass-through cost, paid by end users. Nevertheless, declining interconnection rates will drive down wholesale termination rates, further depressing gross wholesale revenues.

**Wholesale revenues are fragile.** Only a handful of regional market segments, most notably mobiles in northern Africa, Sub-Saharan Africa, and the Middle East, experienced meaningful revenue growth in 2011. Outside of these regional markets, wholesale revenues

were largely flat or declined. If volume growth becomes too slow, or if wholesale rate declines to these markets accelerate, wholesale industry revenues could decline significantly. The relatively small number of healthy wholesale markets also suggests that wholesale carriers that do not serve these markets already face significant challenges.

**Network upgrades and transitions present challenges.** Some carriers are far along in their transition to all-IP networks and have also launched IPX services, but a great many carriers still operate predominately TDM networks. While deploying a VoIP network should not present an insurmountable technical challenge for these carriers, many telcos have been operating their international voice business with a view to maximize cash flow. They may find it difficult to justify CAPEX in a business that is not growing and faces the almost inevitable prospect of longer-term declines.

**Consolidation is inevitable.** Industry participants have been predicting consolidation in the international voice market for years, and have been complaining about the slow pace of consolidation for almost as long. While the process has been slow, and its timing remains difficult to predict, consolidation is inevitable. The international voice market is crowded, offers narrow margins, presents no easy growth opportunities, and holds the prospect of a longer term decline.

In light of this bleak outlook, a growing number of service providers will choose to outsource their international voice termination to one or more wholesale carriers, or to combine their international voice business with that of a larger entity. The international calling market will still be around for many years to come, but the number of participants will just as certainly decline.

The content on the preceding pages is a section from TeleGeography's TeleGeography Report

The work is based on sources believed to be reliable, but the publisher does not warrant the accuracy or completeness of any information for any purpose and is not responsible for any errors or omissions.

This work is for the confidential use of subscribers. Neither the whole nor any part of this publication may be reproduced or transmitted in any form or by any means, electronic, mechanical, photocopied, recorded or otherwise, without prior written consent from PriMetrica, Inc.

All rights reserved. © 2013 PriMetrica, Inc.

TeleGeography

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