## Connectivity in Latin America

by Geoffrey Biddulph, Director of Latin American sales at PCCW Global

The growth in Latin American communications - from telephony to broadband data - in the last decade has been astonishing. Cell phones were few, the Internet was dial-up, and both were expensive. Although Internet user growth has increased more than 10 times, there is still a huge potential for growth. New undersea cables connecting the region to the USA, huge investments in domestic networks and the growth of Internet content and social networks have all spurred continuing growth of LA telecommunications.



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When the story of early 21st century Latin America is told by future historians, one of the most interesting aspects will be the explosion in communications.

Most people in Latin America remember the days of the 1970s, 1980s and early 1990s when all faced a multi-year waiting list to get a telephone. Cell phones didn't exist until the 1990s and didn't begin to penetrate the retail marketplace until the 21st century. The Internet was mostly a tool for people working at universities or large businesses.

All of that changed during the incredible last decade. Now, there are many ways to get a phone. The Internet is exploding. Broadband is taking off. People are communicating in ways that would have been unimaginable just 20 years ago.

Consider this - in most of Latin America, Internet user growth has increased more than 10 times, but still only about 35 per cent of people use the Internet. This means that the Internet has reached more people than ever, but it also means there is still a huge potential for growth. Connectivity in Latin America is greater than ever, but the trends show communications will still be one of the top areas of investment in the region for years to come because the market is far from being fully penetrated.

There have been three major reasons for the explosion in communications in the region. First, the proliferation of new undersea cable systems has brought greater international bandwidth and more reliable networks. Next, there has been a huge investment in domestic communications infrastructure in most Latin American countries. The third trend has been

the proliferation of new content and ways to connect via the Internet - from Google to YouTube to Facebook to blogs and email and instant messaging. These three trends have combined to cause a huge increase in connectivity growth in the region.

## New cable systems

There are five main private undersea cable systems in the region and at least two major consortiums. The main cable systems owners are: Global Crossing, Telefonica, Latin American Nautilus, Globenet and Columbus Networks. The major consortiums are Americas 2 and Maya. There are several other cables out there, but these systems undeniably carry the largest amount of traffic.

All of these systems were installed in the last decade or so and all of them

have undergone upgrades as demand has increased. It is worth mentioning that there are also several satellite companies that continue to provide international connectivity to the region, although the amount of traffic carried remains small compared to the undersea fibre networks.

The undersea fibre networks provide connectivity from Latin America to the United States. The majority of Internet traffic is outbound (eyeball) traffic with users in Latin America looking at US-based sites. But these undersea cables also provide connectivity between different Latin American countries, facilitating intraregional traffic in ways that are changing communications patterns and uniting the region politically and culturally.

Companies are now buying international connectivity on a wholesale basis at bandwidths in multiples of ten gbps. Just a decade ago, E1 (two mbps) or smaller circuits carried most of the traffic.

In addition, the reliability of connections to the region has increased exponentially. A decade ago, most traffic travelled on linear cables, which often failed, and satellites that were slow and balky. Now, multiple cable systems with full self-healing rings provide near seamless connectivity. The largest wholesale providers, which sell voice and data capacity to Internet providers and consumers, buy capacity from multiple undersea systems so they have full circuit redundancy for backup.

The demand for Internet access could not have been fulfilled if these new undersea cables had not been built.

## Domestic infrastructure build-out

The new capacity brought by international cable systems needed to reach users in the larger Latin American countries. Two decades ago, most of the telecom infrastructure was incapable of carrying anything but the most basic level of analogue traffic. That changed about a decade ago as investment flooded into communications networks in every Latin American country.

The 1990s brought a wave of privatization to the region and most of the larger Latin American countries sponsored buyouts of state-owned assets. The result was a wave of new investment in telecom infrastructure. The biggest example, Brazil went from Government owned to completely privatized

in the late 1990s. A host of foreign companies - from MCI to Sprint to Telmex and Telefonica - have poured money into Brazil to help build out telecommunications. It is worth noting that several of the most successful companies maintained domestic ownership, however. At the same time, companies invested in new technologies - from cable delivery to WiMAX - to find solutions for delivering the all-important last-mile to homes and businesses.

The same process took place in Chile, Argentina, Peru and Mexico, although each country handled the privatization differently. It is worth noting that the countries that allowed the greatest amount of competition - like Chile - have the greatest amount of infrastructure at the lowest cost to the end user. Countries like Mexico that allowed one large company to dominate the marketplace (Telmex) have the least amount of competition and very high prices relative to their neighbours.

Even in markets with relatively low levels of competition, the telecom build-out has been noteworthy. New fibre and copper has been delivered to millions of new locations. Cable infrastructure now provides phone and TV service. WiMAX and other technologies have helped provide last mile loops where fibre is too difficult or costly to deploy. Satellite phones now dot small towns throughout the Amazon and other remote areas of Latin America. People in the region consider their cell phones among their most treasured possessions.

People throughout the region are communicating in ways they never would have dreamed of just a decade ago.



## Content

Does content drive connectivity or does connectivity drive content? In Latin America, both trends are at work, but the explosion in new content would not be happening without the international fibre networks and the domestic build-out of infrastructure.

Latin Americans quickly adopt the latest technology and follow the worldwide trends. In 2009, the Latin American Internet audience grew 23 per cent and now represents eight per cent of total Internet traffic worldwide. Brazil alone grew 20 per cent, adding six million new Internet users in one year! Colombia grew 36 per cent; interestingly, one of the key reasons for this growth was the recent large increase in international cable systems to Colombia, which had been bypassed by most of the major undersea cables until then.

Google, Yahoo, Microsoft and Facebook were the most popular Internet sites in Latin America. But the region also has its own mixture of local popular sites. Terra, MercadoLibre, UOL and the Globo networks were also very popular. Like many countries, Latin Americans prefer content in their native language, and they love local content discussing local trends and popular culture.

Interestingly, Latin America has the highest number of people per capita using search engines to search for content. The average person makes 137 searches, almost twice as many as in the Asia-Pacific region.

Social networking is extremely important in Latin America, with Facebook - and Orkut, which is most popular in Brazil - dominating the marketplace. Users spend more than three and a half hours per month on Facebook, and six hours per month on Orkut!

The demand for content in the region is certain to continue to explode in the years ahead. Smartphones will eventually bring reliable video streaming to the handset. Soon, handheld video-conferencing will be the norm, especially for business travellers. Faster and faster networks - on the international and domestic level - will allow for faster delivery. That in turn will spur new applications and new innovations. Will the region undergo a new revolution in communications technology in the next ten years? It is impossible to know for sure, but history shows us it is very, very likely.