

## Cloud Computing and the Digital Divide

### Transforming SMBs in Emerging Markets

By Peter Ford and Wouter Belmans

Cloud computing has received a lot of attention across the telecommunications industry—and interest in cloud among emerging-market countries is even greater. The “greenfield” nature of information and communications technology (ICT) in many countries creates the opportunity to “leapfrog” to cloud computing.

For some time, governments have recognized the role of broadband in supporting economic development. The World Bank states that for every 10 percent of broadband penetration in a developing economy, there is typically a 1.38 percent increase in GDP.<sup>1</sup> Almost all developing countries have made increased broadband access the center of their growth policies.

Many countries have also invested significantly in core and access networks. A global study of the quality of broadband networks revealed tangible improvements year-over-year across emerging markets.<sup>2</sup> However, in some cases, these investments have not delivered on the promise of economic development—a failure that can be attributed to the lack of content and services.

While broadband speeds in emerging markets are typically lower than those in Europe or North America, they are adequate for basic cloud services. According to the Cisco<sup>®</sup> Global Cloud Index, the average fixed-consumer download speed in the Middle East and Africa is 1,691 kbps, and the average upload speed is 795 kbps.<sup>3</sup> Some countries—for example, Egypt, South Africa, and the UAE—have developed their networks sufficiently to support intermediate cloud applications such as CRM, ERP, and basic video conferencing.

A cloud model makes the creation and distribution of local/regional applications and content much simpler and cost-effective, “unlocking” the potential of networks.

#### Cloud: Appealing to Large Enterprises and Governments

The term “cloud computing” refers to the consumption of infrastructure and application services on a utility basis, paid per unit consumed.

For large enterprises in emerging markets, cloud can help address three of the most important challenges: 1) limited availability of IT skills, 2) capital constraints, and 3) security risks. These challenges and others specific to doing business in emerging markets will greatly increase cloud’s relevance to different stakeholders there.



Cisco Internet Business Solutions Group (IBSG)

According to a Cisco Internet Business Solutions Group (IBSG) survey, CIOs believe that they can improve security by managing data offsite, in the cloud.<sup>4</sup> The survey further revealed that global enterprises will run 12 percent of their workloads in the cloud by 2013.

According to the 2011 Cisco Connected World Technology Report, more enterprise executives in emerging markets plan to use cloud as opposed to their colleagues in developed countries—50 percent of CIOs in India, 43 percent in Brazil, and 40 percent in Mexico confirmed that they will adopt cloud, compared with 29 percent of CIOs in France and 25 percent in the United Kingdom.<sup>5</sup>

Many governments in emerging countries plan to use cloud computing to bring services to citizens. Cloud applications enable centralized implementation of standardized services on a countrywide basis. And, the ubiquitous nature of cloud services eases the rollout of government services to large sections of the population.

### Cloud: Transforming Small and Medium-Sized Businesses

Cisco IBSG believes that the highest transformation potential of cloud is in the small and medium-sized business (SMB) market. By far, SMBs play the most important role in the economic development of emerging markets. Brazil, Russia, India, and China have more than 195 million small businesses among them, compared to 15 million in the United States. SMBs in India contribute more than 60 percent of GDP (more than US\$600 billion).<sup>6</sup> This figure is mirrored across many emerging economies: the United Nations Conference on Trade and Development (UNCTAD) estimates that small businesses account for more than 90 percent of output across Africa.

Small companies are a nursery for the larger ones of the future, and usually drive innovation within a developing economy. However, ICT usage among SMBs in developing countries typically is very low. For example, SMBs in India account for only 30 percent of ICT spending.<sup>7</sup> Given that, technology has significant potential to improve efficiencies. Cloud can make this happen because it can be accessed from anywhere and from any device. Even older PCs, with limited compute power, are sufficient to access cloud applications. And, business owners who do not own a computer can also access their applications from an Internet cafe or shared PC. With the quick adoption of smartphones in some countries, cloud applications that can be fully managed from a smartphone will also gain importance.

The Cisco IBSG 2010 SMB Cloud Watch Survey<sup>8</sup> shows that small businesses in developed countries will rely extensively on cloud applications to manage their communications and business processes over the next five years, and nearly 50 percent of SMBs will spend more than one-third of their IT budgets on cloud services in 2013.<sup>9</sup> The impact will be much greater in emerging markets, where many small businesses do not have capital or the skills to use ICT. On-demand applications will place many companies onto the first step of the technology ladder.

### Cloud: Enabling SMB Growth

Some advantages to using cloud—pay-per-use consumption, ubiquitous access to services, and easy usage—present SMBs with an opportunity to manage their businesses better through bundled universal cloud applications such as messaging and calendaring, as well as customer, inventory, accounting, invoicing, and human resources management.

Additionally, industry-specific “baskets” of cloud applications have the potential to attract business ecosystems (communities of interest). A software as a service (SaaS) basket for the textile industry, for example, could create a countrywide social network of textile producers and improve the efficiency of national textile production and markets; Istanbul Textile and Apparel Exporter Associations (ITKIB) in Turkey is already exploring this option.

If policymakers and regulators can foster an environment where cloud prospers, cloud could prove to be a critical enabler of SMB growth, which, in turn, can dramatically impact the growth of the economy in emerging markets.

## Endnotes

1. “Broadband, Mobile Key to Economic Growth: World Bank,” AFP, June 30, 2009.
2. “Broadband Quality Score III: A Global Study of Broadband Quality,” Cisco; Saïd Business School, Oxford University; and Universidad di Oviedo, September 2010.
3. “Cisco Global Cloud Index: Forecast and Methodology,” 2010-2015.
4. “Network Service Providers as Cloud Providers: Survey Shows Cloud Is a Bright Option,” Cisco IBSG, November 2010.
5. “Cisco Connected World Technology Report,” September 2011.
6. “Indian SMB ICT Adoption Insights,” Zinnov Management Consultancy, 2012.
7. Ibid.
8. “Small Businesses Ride the Cloud: SMB Cloud Watch—U.S. Survey Results,” Cisco IBSG, February 2010.
9. “New Cisco IBSG Research Reveals Dramatic Growth in Cloud Interest Among SMBs: Half of SMBs Will Spend at Least One-Third of IT Budgets on Cloud and Managed Services in 2013,” Cisco IBSG, 2011.

---

### More Information

Cisco IBSG (Internet Business Solutions Group) drives market value creation for our customers by delivering industry-shaping thought leadership, CXO-level consulting services, and innovative solution design and incubation. By connecting strategy, process, and technology, Cisco IBSG acts as a trusted adviser to help customers make transformative decisions that turn great ideas into value realized.

For further information about IBSG, visit <http://www.cisco.com/ibsg>



**Americas Headquarters**  
Cisco Systems, Inc.  
San Jose, CA

**Asia Pacific Headquarters**  
Cisco Systems (USA) Pte. Ltd.  
Singapore

**Europe Headquarters**  
Cisco Systems International BV Amsterdam,  
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at [www.cisco.com/go/offices](http://www.cisco.com/go/offices).

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: [www.cisco.com/go/trademarks](http://www.cisco.com/go/trademarks). Third party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)