

## ICT and growth in India

by Ravi Swaminathan, President, Personal Systems Group, Hewlett Packard (HP), India

The changes brought by information and communication technology, *ICT*, in India have affected its economy and its growth as a nation profoundly. This very growth, however, the spread of use by businesses, students and individuals has raised serious security concerns. Much of the growth in ICT has been driven by the availability of broadband Internet access, but data networks, especially wireless ones - WiFi, WiMAX - present significant security risks, making the security of India's data an issue of paramount importance.



*Ravi Swaminathan is the President of Hewlett Packard's (HP) Personal Systems Group for India. He has countrywide responsibility for the entire range of consumer and commercial PCs, laptops, workstations and the emerging range of personal access devices, including handhelds. Mr Swaminathan joined Compaq, now part of HP, in 1995 and started the consumer PC business in the country. He was subsequently promoted to Director for the Consumer Products for South Asia and then appointed to head Compaq's newly formed Access Division in India. Prior to joining Compaq, Mr Swaminathan held various key positions at ICI.*

*Ravi Swaminathan holds an MBA from the Indian Institute of Management, Ahmedabad and is a Chemical Technologist from the University of Mumbai.*

The rapid and widespread development of information and communication technologies in India since the beginning of the reforms process has significantly changed the ways in which people interact and enterprises do business. Mobile telephony, IT-enabled services and wireless networking, have led to major changes in the world of computing. The popularization of ICT is also leading to the adoption of information and computing technologies as a central feature of Indian businesses. However, as ICT development increases, and personal computers and notebooks become popular devices for students, households and professionals, the issue of computer security will be paramount.

### Growth of the Indian telecom sector

India is home to one of the world's largest telecommunications markets today. There was a time when the telecom sector had only one player - the government, selling one product - fixed-line telephony.

**“India is home to one of the world's largest telecommunications markets today.”**

Since the popularization of mobile technology, and the push for privatization and liberalization of the telecom sector in the early 1990s, there have been significant transformations. The entry of private players in mobile and fixed-line telephony has changed the face of the industry. Today, consumers can choose from multiple information technology products at affordable prices. In short, consumer demand, convergence of information, communication and computing technologies, and changes in market structure have developed and expanded India's telecom sector.

Currently, there are more than 90 million mobile phone connections and 50 million fixed-line connections. The growth is astounding; you will be surprised to know that more than five million new mobile subscribers are added each month. Some of the reasons for this stupendous growth

are dropping telecom prices and reduction of duties on hardware, which has enabled greater mobile coverage.

The future looks very bright for the Indian ICT sector, with the Internet subscriber base pegged at seven million and the number of broadband connections at one million in 2006. According to the projections of the Indian government's 2004 Broadband Policy, broadband connections are expected to exceed 20 million by 2010. There has been a steady growth in tele-density in the past decade and telephone penetration in India has increased to 12 phones per 100 people.

### ICT and computing

Developments in ICT, such as the growth of Internet - especially broadband - connectivity, the successes of information

**“The Indian government has been supportive of ICT development, and is putting the right policies in place.”**

technology, and the spread of mobile telephony, have collectively created a boom in the demand for personal computers. In 2005-06, the Indian PC market grew by 30 per cent over the previous year, crossing the 4.6 million mark. The small and medium business segment drove this growth for PCs, while the higher education segment pushed up the notebook PC market.

As more and more educational institutions and businesses adopt the Internet as a way of life, using it as a learning or business tool, the demand for PCs is expected to grow even higher. According to a study by market research firm AMI Partners, 40 per cent of small businesses in India expect to buy PCs in the next year. This rapid growth in the use of computers and sales of PCs has come about because of the spread of Internet connectivity and falling PC prices.

The Indian government has been supportive of ICT development, and is putting the right policies in place. It has recognized the importance of wireless networking for business, education and developmental purposes, and has shown willingness to allow the growth of WiFi, WiMAX and other emerging wireless technologies. Due to this, there has been tremendous growth in wireless networks, especially in urban areas. Today, there is mass adoption of wireless technology in offices and campuses. Wireless access hotspots have emerged across the country, especially in high-traffic areas such as hotels and airports. These allow the business traveller to access information on the go.

Wireless networking technology, and the growing affordability and portability of notebook computers, has also made it possible for businesses to allow their employees more mobility. Attractive prices for notebooks are letting businesses provide employees with these devices economically. In areas such as pharmaceuticals, sales and manufacturing, employee mobility is a boon because it enhances productivity.

Educational institutions have been quick to adopt both the new wireless technologies and portable computers. Students with notebook computers or tablet PCs can access information from any point in

a networked campus. This translates into cost savings for the college or school management because they can optimize their IT infrastructure by providing students and faculty with notebooks.

## Businesses and ICT

Small and medium businesses, *SMBs*, in India are cognizant of the need for ICT solutions to help them grow, achieve operational efficiencies and become globally competitive. Most SMBs are looking for an ICT solution that is scalable, flexible and provides good outside support. They are also looking for technology solutions that can help integrate local offices, bring them closer to customers and help plan the future capacities and investments required to sustain growth. Another aspect of ICT solutions for SMBs involves the supply chain management system; rather than provide a one-size-fits-all solution, vendors must be able to customize solutions for the individual business.

Whether it's a computer, printer and scanner for a home office, a server for a small business or end-to-end IT architecture for a medium-sized firm, the SMB segment is eager to integrate IT into the conduct of its business. This sector is technologically savvy, and prefers to have the latest technology at its service to facilitate quick access to information and efficient decision-making. The SMB sector, which is growing at 15-20 per cent annually, therefore presents a growth opportunity for IT vendors to become partners, rather than mere sellers of technology. Vendors must be able to partner with SMBs to understand their growth plans and provide solutions with the lifecycle to meet these plans. In the process, it will also lead to widespread and even adoption of ICT by corporate India.

**“Students with notebook computers or tablet PCs can access information from any point in a networked campus.”**

## Security issues

The growth and popularization of ICT - whether it's a networking solution for the SMB firms, high-speed Internet connectivity, or the adoption of personal computing by individuals and firms - creates new security concerns. For instance, the spread of broadband connections means a greater number of users than before can ac-

cess high-speed, always-on Internet. Data downloading becomes faster and easier, but wireless networks are especially vulnerable to interception or disruption. Unauthorized access to a wireless network can not only reduce bandwidth speed, but opens the door for security breaches and the loss of data.

Today's business users are looking for notebooks and PCs that pack in the latest features. Reliability features such as hard drive protection, panel protection, spill resistant keyboards and tough casing are top priorities for business executives who want their devices to withstand daily use. They also desire easy-to-use, one-touch access to the device's various high-tech features. Most importantly, users are looking for security features that go beyond physical protection. They want to have peace of mind, and to know that the data stored in their notebooks is protected from unauthorized access.

**“Today's business users are looking for notebooks and PCs that pack in the latest features.”**

Given this scenario, it is not surprising that India's ICT security industry is poised to enjoy the same kind of growth witnessed in the IT industry in the 1990s. India is one of the fastest-growing ICT security markets in the Asia-Pacific region. Indian enterprises are keen to establish or upgrade their existing security infrastructures.

It is well recognized that ICT can lead economic growth - India's success story is a case in point. The eagerness with which the SMB segment is adopting ICT shows the trend will continue. Government agencies have also been quick to adopt IT architecture to run internal networks and for e-governance. ICT is a development tool, and these technologies can help meet the educational, health, governance, employment and commercial needs of the country. However, with the growth in Internet and PC penetration, the issue of information security has become a critical concern. Therefore, one of the most pressing challenges ahead is to make the country's ICT base secure. This can be done through consumer education and awareness on the one hand, and government commitment to developing cyber laws on the other. ●