



**Michael Dell**  
**World Congress on Information Technology**  
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### **The Global IT Revolution: Seizing its Full Potential**

**MICHAEL DELL:** Thank you for coming today, and let me be the latest to wish you all – representing 86 nations, by last count – a warm welcome to Austin. Some of you may not know that Texas was its own independent nation before it was a state. It's fair to say that Texans are independent-minded, and I suppose I reflect that independence. I grew up about 150 miles away, in Houston, and then came here for college where I eventually founded Dell.

The decision by the organizers of this conference to meet in Austin reflects just how significant this city has become on the technology landscape. I'd like to focus my remarks on one particular area of the technology landscape, Digital Access, and specifically on the nexus between information technology and economic growth, giving special attention to the role of government in enabling IT to flourish – and create jobs, economic growth and prosperity in the process.

Let me start with three general points about information technology. First, and most obvious, there's more of it. The PC market alone has tripled in the last 10 years – and Dell is 10 times larger than we were 10 years ago. In 1997 there were 285 million PCs in existence – by the end of this year, there will be 870 million PCs.<sup>1</sup> During the same period, the number of people using the Internet increased 260 percent, from 277 million to 1 billion.<sup>2</sup> In Latin America and the Caribbean, the number of Internet users tripled, and in Asia it nearly tripled. In large nations, the biggest growth has come in China, India, and Russia. And while widespread broadband access is still ahead of us – less than 14 percent of the people in the 30 OECD nations have it – the broader growth in access to computers and the Internet is significant, translating to new jobs, new opportunities, and higher living standards.

The second point about IT is that its proliferation is contributing to an amazing pace of innovation. In the span of just a few years, or sometimes less, technologies are evolving from a mere idea to full-fledged products and services. Think of products, such as the DVD, or services, ranging from PayPal to Friendster. Combine this innovation with the standardization of technology ingredients and the reduction in trade barriers, and millions of more people suddenly have access to products and applications that are changing the way we interact with each other.

Third, more IT coupled with more innovation can be, and often is, a catalyst for more economic growth. A study by the UN's International Telecommunications Union recently found that in the G-7 nations, 27 percent of the GDP growth from 1995-2003 was a function of investments in information technology.

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<sup>1</sup> IDC

<sup>2</sup> [http://www.itu.int/ITU-D/ict/statistics/at\\_glance/KeyTelecom99.html](http://www.itu.int/ITU-D/ict/statistics/at_glance/KeyTelecom99.html)



By helping to create new business efficiencies, and unlocking new economic opportunities, especially for smaller companies, IT has become a primary driver of productivity and economic growth throughout the world.

### *Information Technology and Developing Nations*

As the U.S. and other G-7 nations have gained from IT, so have today's developing nations. India for example, where the number of Internet users grew more than 50 percent last year, generates more than \$21 billion from its IT industry. Fifteen years ago, the figure was just \$150 million. It's already the case that India is home to three of the world's ten biggest IT firms – Tata, Infosys, and Wipro.

China is another good example of a once-developing country that has moved quickly to become a leading IT player. It made the critical decision to open its borders to free trade and pursue membership in the World Trade Organization, and was admitted in 2001, giving the country greater access to both global markets and the rules-based global trading system. By the end of this year, China's IT sector is expected to have created one *million* new jobs just since 2003.<sup>3</sup> China now has the second largest number of Internet users in the world, a thriving and competitive telecom market, and exciting technology companies, such as Harbour Networks, Huawei, and ZTE.

IT will also spark innovation, and often in places not traditionally thought of as IT hubs. Fon.com, founded in Spain, is working to make broadband access universal by enabling users around the world to share their WiFi. A Swedish company, PacketFront, is a pioneer in fiber to the home and "triple play networks" that integrate voice, video and data. And Asterisk is an American company, based in Alabama, that is an open source PBX, or private branch exchange, focused on providing VOIP in many protocols.

### *IT as a Driver of Efficiency, Productivity, and Economic Growth*

Amazing technology advancements are being made now in cycles of months and weeks, not years. It's hard to envision what the capabilities for computer users will be in two decades. By 2020 a massively multi-core, multi-threaded microprocessor will run one thousand times as many computations per second as today. That means enormous gains in productivity and efficiency, giving us unimaginable power to access, organize and transform information. There are many ways to illustrate how IT is already driving greater productivity and efficiency, but I'll limit myself to two examples.

The first example comes from Dell. Last year, we launched a tool called "Dell Connect" that allows our technicians to remotely connect to customers' computers – subject to their permission, of course – to resolve any technical issues. We believe Dell Connect is the natural evolution of our Direct Model in terms of support. 95 percent of our customers who have used it told us they like it, and we have also seen that it leads to dramatic reductions in the length and volume of customer-service calls.

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<sup>3</sup> IDC, "The Contribution of Software and IT Services to the Chinese Economy," April 2006  
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For the second example, I'd like to show you a brief video from the Parikrma Humanity Foundation, a nonprofit organization based in Bangalore that uses technology to unleash the potential of under-served children. (VIDEO PLAYS)

If you replicate examples like these at thousands of companies and across communities, you begin to see how IT delivers the impressive gains I referred to earlier. But I'd also like to single out a study that highlights the economic gains that one technology delivers to nations.

A London Business School professor, working with two consultants, set out to determine the economic impact of mobile phones on national economies. Surveying the period between 1996 and 2003, the researchers found that in the average developing nation, every 10 percent increase in the number of mobile phones in use boosted that country's gross domestic product by six-tenths of one percent.<sup>4</sup> The nexus between mobile phones and growth is simple: mobile phones create new efficiencies by reducing transaction costs, expanding markets by spurring improved information flow, and substituting for physical transport. It is no coincidence that China, which has achieved such rapid economic growth in recent years, also has the largest number of mobile phone users in the world.

IT breakthroughs in the past decade or so have also helped create an entirely new segment of the U.S. economy. Companies like EBay, Google, and Yahoo have created huge employment opportunities and considerable shareholder wealth. The proliferation of IT has also given rise to new forms of entertainment and social interaction. I'm thinking of Blogs, instant messaging, P2P networks, and massively multi-player online gaming.

A theme that runs through many of these lines of business is what's known as disintermediation, or "cutting out the middle man." Dell has some experience with this way of doing business, of course, and we like it very much. But I mention it because it also relates to enhancing digital access. As technology becomes more powerful and less expensive, it will contribute to a great leveling effect – or, as Tom Friedman likes to say, helping to make the world flat.

#### *Where the Promise of IT is Still Unfulfilled*

While information technology has sparked extraordinary economic and human progress during the past few decades, it's also true that its potential is only beginning to be met, and in many countries for a variety of reasons, its promise has gone unfulfilled. In 2004, just 12.4 percent of the world's people had access to a PC, so I'm pleased this gathering is focusing on improving digital access, because as the global knowledge economy becomes more networked and integrated, the price of being left behind will only grow. It's one of the great challenges facing everyone in the IT world in the months and years ahead.

Expanding access to IT, and realizing its full potential, involves a web of interrelated factors. The one I'd like to talk about this morning is the role of government.

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<sup>4</sup> [www.vodafone.com/africa](http://www.vodafone.com/africa)



Some people say that the best thing government can do for IT is simply to get out of the way and let the proverbial chips fall where they may. In some areas this is certainly true, but we believe there is a great need for government to do a few things right in order for an IT sector to thrive.

First, and fundamental to the long-term health and sustainability of a country's IT sector, is a high-quality education system. The skills that are needed to succeed in today's economy are very different from 20 or 50 years ago. Successful nations need people with 21<sup>st</sup> century skills, such as literacy in information and communications technology, and the ability to fully use the technological tools of the modern age. Schools play an essential role in introducing these skills, developing them, and continually refining them. Indeed, schools are often the only place where children can gain these critical skills, so education systems must teach them to all students – regardless of age or economic background.

The second way in which government can contribute to the growth of an IT sector is to help create the critical infrastructure. That means encouraging the development of multiple competitive communication networks, cable and telecom based; as well as wired networks, especially fiber and modern wireless networks like HSDPA (or High Speed Downlink Packet Access), WiMax, and satellite. Broadband networks are the highways of the future, to the future – and we're going to need many more of these than you might imagine. The more broadband networks you have, the faster your nation will grow.

Third, all governments should set an ambitious goal – that anyone in their country who wants access to modern information technologies should be able to get it. Along those lines, if you want higher productivity, investment and growth, you will want to reduce the taxes associated with buying and using the tools that bring productivity and advancement. As simple as it sounds, some nations have yet to do this and as a result I believe they will never reach their full potential.

Governments should also work to open their markets to IT products from other countries, as it will give consumers more choices while forcing domestic producers to remain competitive on price and quality. China did this several years ago and it delivered fantastic results.

Let me turn now to a few examples of countries that at one time were small players in the IT world, but thanks to good planning and good policies have succeeded in becoming IT centers.

Perhaps most successful of all has been South Korea where broadband adoption is over 70 percent, the highest in the world. A report by the World Economic Forum discusses how the government has linked up with businesses and universities to strengthen seven interrelated sectors: e-government, Internet, broadband convergence, mobile communications, e-commerce, banking and financial services, and the IT industry. The strategy has paid huge dividends, with information and communications technologies now accounting for 30 percent of the country's exports, and helping it to get back on its feet after the 1997 financial crisis. Significantly, South Korea is now pursuing a new strategy – called IT 8-3-9 – in which it is working to create eight new information services (such as terrestrial digital TV), three new types of IT infrastructure (such as a broadband convergence network), and nine new IT growth engines (such as home networking).



Ireland has also recognized the potential gains offered by IT and set out to make itself a high-tech powerhouse. The government advanced an Action Plan on the Information Society in 1999, and the following year it launched an initiative focused on funding research targeted at niche technologies. Significantly, Ireland also created a favorable tax regime, and complemented its tax policy by welcoming foreign investment, as Dell learned when we first invested there in 1990. Today, we're Ireland's largest exporter among 1,300 IT companies, which combined employ 90,000 people and generate sales exceeding \$67 billion.

Another country with a bright future is Malaysia. It ranks in the top quartile of countries included in the World Economic Forum's Networked Readiness Index. And on a number of indicators it scores in the top two or three in the world, such as reasonable regulation and making information and communications technologies a government priority. Malaysia has also created a favorable investment climate, which is one reason why Dell chose to open a manufacturing facility there in Penang in 1995, and why last year we opened an advanced enterprise support center to help our large businesses in Southern Asia respond to mission-critical IT issues. In 2005, Dell accounted for 28 percent of Malaysia's electronic equipment exports and almost 7 percent of its GDP.

I'd like to also mention a country determined to realize the gains from IT, and that's Ethiopia. Its government is investing the equivalent of hundreds of millions of dollars on next-generation broadband networks, with the goal of bringing telephone and Internet access to the vast majority of its villages in the next few years. The country's prime minister offered his rationale for the investment to the *Financial Times* recently, saying: "We are too poor not to invest in information and communications technologies." He added that IT "is the fastest way to end our isolation."<sup>5</sup>

As developing countries strive to develop their IT infrastructures, we urge governments and businesses of these countries to do so in a manner that is sustainable and responsible, balancing the desire to realize long-term economic opportunities with the near-term, real-world needs of their citizens. I'm sure that I am stating the obvious, but for many developing nations, basic health concerns like access to clean water and affordable medicines and health care are a far more urgent need.

And, when a country does reach the point where access to technology becomes widespread, the companies that provide these products need to join with the governments and NGOs to ensure that they're promoting *responsible* access to technology that supports rather than pollutes our environment. There's a great example of this corporate responsibility here this week with the new Green Grid association, of which Dell is a founding member. We're joining with other IT companies to influence the private and public sector to develop and use technology solutions that consume less power.

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<sup>5</sup> "Waking Up to a Laptop Revolution," *Financial Times*, March 29, 2006.



## *Conclusion*

At Dell, we are committed to ongoing innovation and to helping more people around the world realize the potential of information technology. And while we are a big company, we are still only one company. The challenge posed by digital access is one that we all have to work to meet together.

As you think about these issues, I urge you to view it not as a burden, or a social obligation that must be met, but rather as a two-dimensional opportunity:

First, view it as an opportunity to improve lives, by making IT solutions more accessible to more people – whether a budding entrepreneur or a doctor in Africa searching for information on how to combat a rare disease.

Second, and just as important, view digital access as an opportunity to grow. IT has always been about leveraging human creativity and potential. We have only seen the beginning of what our industry can do to advance the state of the world, especially in those nations that encourage and nurture the skills and tools that cause IT to thrive. Those are objectives we should all be able to support, and all be willing to work to achieve.

Thank you.

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