

Implementing the e-APEC Strategy: progress and recommendations for further action

Background Paper

PART THREE

THE BRUNEI GOALS

November 2004

This document is a background reference paper for the PECC report to APEC Ministers in Santiago entitled *Implementing the e-APEC Strategy: progress and recommendations for further action*. It is included in a CD accompanying the published Overview Report.

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3.1 Progress toward the Brunei Goals on access

In year 2000, APEC Leaders set out a vision for the region to meet the challenges of globalization in the years ahead. They saw the crucial role that information and communication technology would have for all aspects of economic development and they made several key commitments which have become known as the Brunei Goals:

Our vision is to prepare each of our economies and all of our people to use the technology revolution as a passport to the fruits of globalisation. We announce today new strategies which we believe will profoundly improve the livelihood of our community in the years ahead. We commit to develop and implement a policy framework which will enable the people of urban, provincial and rural communities in every economy to have individual or community-based access to information and services offered via the internet by 2010. As a first step toward this goal we aim to triple the number of people within the region with individual and community-based access by 2005.

Governments alone cannot achieve this vision. We recognise that it will require massive infrastructure development and human capacity building, and technologies which are only now in their formative stages. It will require a regime of outward-looking and market-oriented policies which can attract business investment and the cooperation and skills of our universities, training and research institutions, colleges and schools. We also recognise that the pace of development and implementation of the appropriate policy framework will vary in each economy because of the diversity among members and the widely different levels at which information and communication technology is now integrated.

We commit to working in partnership with the widest spectrum of the business community and those in education and training throughout the region to develop the policies which can make it happen.¹

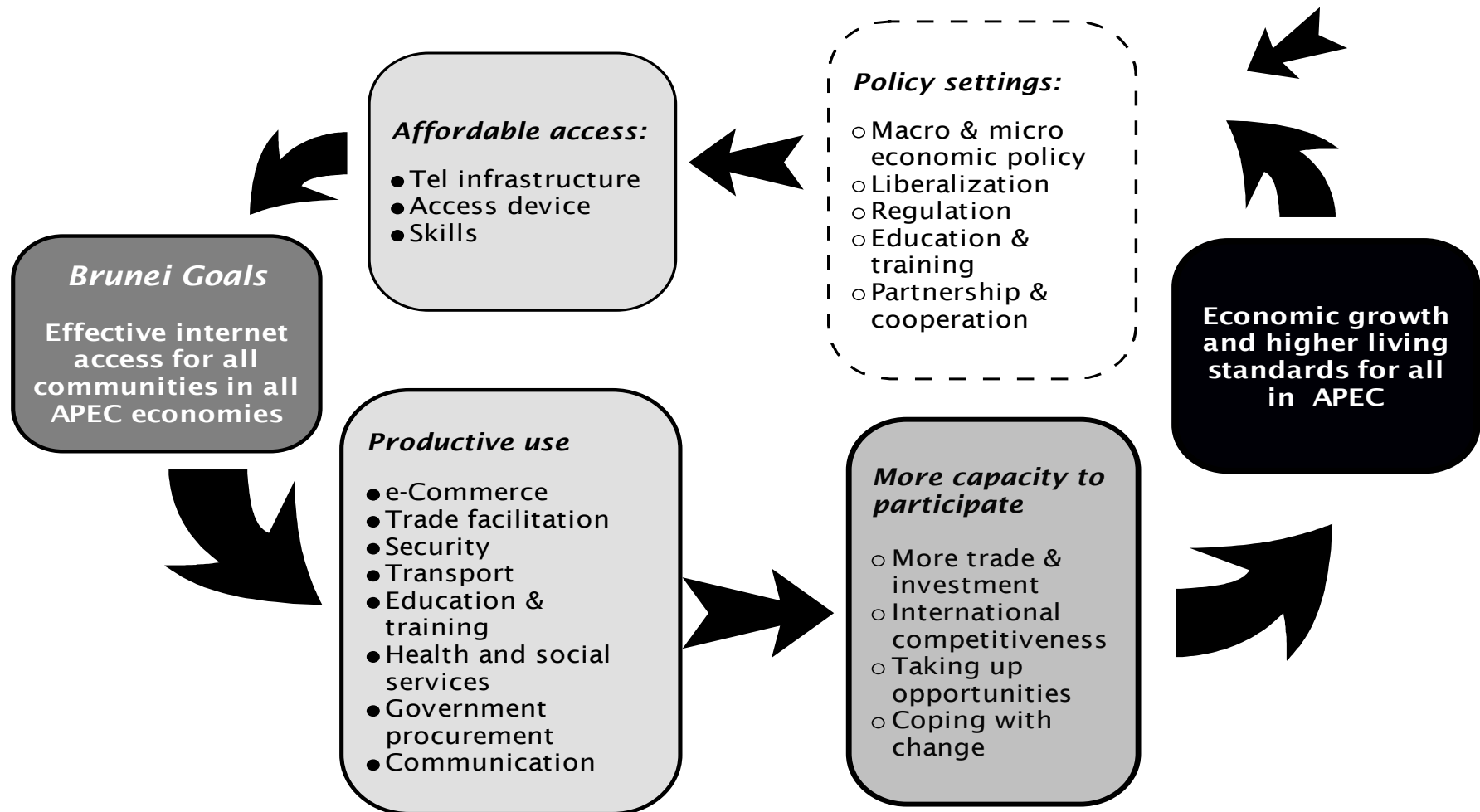
The policy framework required for these goals is far-reaching and challenging. It typifies the e-APEC Strategy approach which is holistic and comprehensive. The goals are echoed and mirrored in other forums and sometimes placed in the context of the so-called digital divide. APEC Leaders recognized the diversity of the region and the consequent challenges

¹ [2000 Leaders' Declaration - Asia-Pacific Economic Cooperation](#), Brunei Darussalam, paras 15,16,17.

but they stated their goal in absolute terms rather relative terms. All parts of the APEC community were to be included.

APEC Leaders did not restrict their view of access to typical year-2000 usage via individual computers at desktops and internet cafes. Mobile and wireless usage and innovative community access were underway and the way people were using the internet was changing. They realized that the services, knowledge and information via the internet could be integrated into all aspects of business and daily lives and that this would give a quantum boost to economic development and the efficiency of business activity.

The Virtuous Economic Circle: Why the Brunei Goals and the e-APEC Strategy matter for economic growth and development in the 21st century



However, they understood that success depended on technology that had not yet been developed and new mindsets and practices that were not yet in place. Success also required new or revised business models for all sectors including the telecommunications sector and extensive skills development. APEC Leaders realized that the goal would need new concepts of public-private sector partnerships and open approaches to markets including investment.

The importance of the Brunei Goals was reemphasized by APEC Leaders in Thailand in 2003:

Step up efforts to build knowledge-based economies. We instructed Ministers to accelerate progress towards the Brunei Goals on expanding Internet access, improvement of intellectual property rights facilitation, protection and enforcement, and implementation of the e-APEC Strategy, in partnership with relevant stakeholders. We voiced support for science and technology innovation, the upgrading of English-language and computer skills among the workforce for effective use of the Internet, advancing cyber-education and ICT capacity building, including for small and micro enterprises²

This renewed directive from APEC Leaders to accelerate progress is a measure of the increasing importance of knowledge and communications in economic growth.

Without effective and widespread access to the internet at an individual, community, business, institutional and governmental level it will be increasingly difficult to be a full participant in the most dynamic areas of economic development and growth. New opportunities for commerce, more efficient transactions and facilitation procedures as well as lower cost opportunities to markedly expand education, health benefits and government services will only be achieved in the decades ahead through innovative services provided through the internet. The ultimate measure of success is not just be widespread access to the services of the internet but using the knowledge and services it provides.

The Brunei Goals are therefore a distinct and integral part of the e-APEC Strategy. The Goals are difficult to achieve without the range of economic policies identified by the Strategy and the full benefits of the Strategy cannot be achieved without internet access.

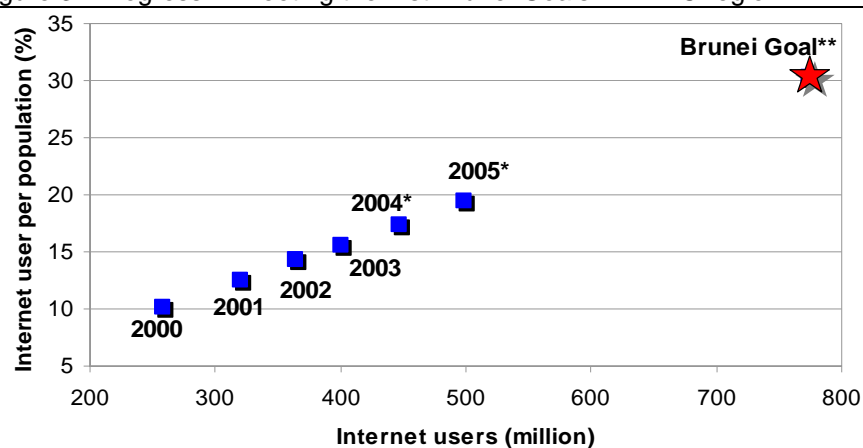
3.2 Tracking the progress: Double but not tripling by 2005

APEC embarked on an interim goal of tripling the number of people in the APEC region with individual or community-based access by 2005.

While enormous progress has been made across the region, APEC s will not achieve its goal of tripling the number of people with access from the 2000 base year. Indications are that the number may double across the region.

These estimates are based on data provided by individual APEC members to the APEC Telecommunications and Information Working Group, which has been tracking progress since 2000.

Figure 37 Progress in meeting the first Brunei Goals in APEC region



* Prediction based on CAGR rate of 11.57% between 2000 to 2003.

** Based on 2000 value.

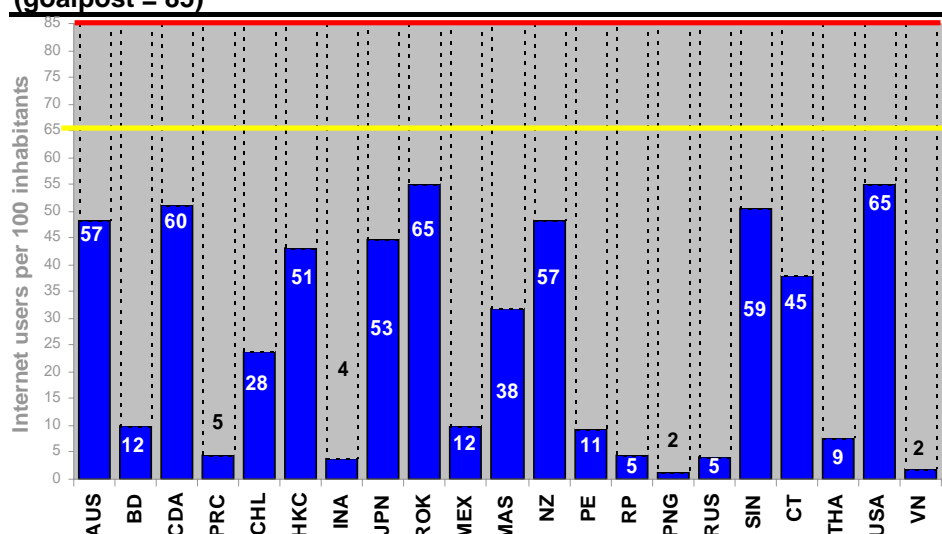
Total populations are used in this figure. A more accurate measure would be potential user populations.

Source: APECTEL, 2004

At national level there is evidently also a room for improvement when compared with international benchmark. As discussed in Part One, ITU sets the Internet user benchmark at 85 per 100 inhabitants (i.e. 85% of total population is online) by 2008 based on the projection of Iceland's current performance of 65%. Despite the fact that APEC economies have an outstanding performance in terms of Internet user growth in the past years, In 2002 majority of APEC economies has not been able to reach even Iceland's current performance, not to mention the more demanding benchmark of 85% of population is online.

² [2003 Leaders' Declaration - Asia-Pacific Economic Cooperation](#)

Figure 38 APEC economies' Internet users (2002) as % of ITU's goalpost (goalpost = 85)



Note: Number in each economy denotes the status quo as % of ITU "goal post".

Source: ITU, 2003

This data may not provide the full extent of access, particularly the number of people who now have community or group-based access through internet cafes, schools and libraries and the workplace in government and business because this data is very difficult to obtain.

In order for the region to triple the number of people with access, the growth would have to occur mainly in developing economies where access was still at relatively low levels. While this goal is a region-wide target it should be noted that China and Peru have been outstanding performers in the region with their expansion in access moving as Leaders perhaps envisaged.

3.3 Assessment of progress

Why has APEC not tripled the number of users? What have been the constraints to further internet access?

Progress is expected to be a "lumpy" rather than smooth as new technology brings about shifts in the supply of new options, as the allocation of public and private resources is made and as the associated markets are liberalized. But this does not explain why the number with access is expected to double rather than treble. Several factors have affected progress to date. Some of these have affected the timelines and sequencing that might have been assumed in 2000 and others have simply constrained development. The factors necessary for effective access can be summarized as:

- Telecommunications infrastructure
- Personal computers or other access devices
- Websites and content
- Language and skills
- Electricity or other power generation

Access also depends on affordability of all of these factors and the cost of telecommunications is particularly important.

(1) Telecommunications infrastructure

Fixed line growth slow where it is needed

The analysis in Section I on Performance of e-Infrastructure Development in APEC shows that while fixed-line penetration has increased in some economies, expansion has been limited in developing economies where it is most needed. Across the region as a whole there has been virtually no expansion in the number of fixed lines since 2000.

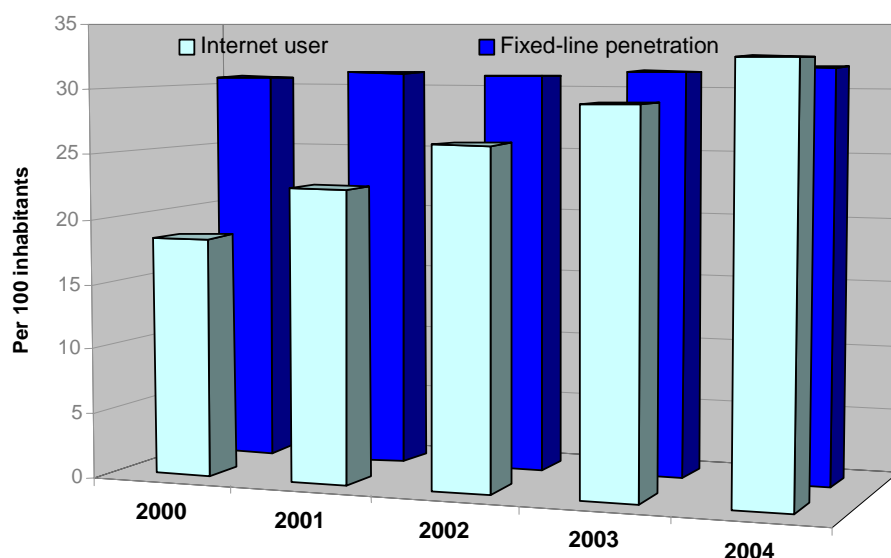
Figure 38 charts in aggregate the fixed-line penetration rates since 2000 against the number of internet users in the region. It shows the steady increase in internet users to the point where the number has climbed just above the number of fixed lines.

While the number of internet users should be expected to move to well above the number of fixed lines, the indication is that the lack of growth in fixed lines has become a constraining factor to access, particularly in the developing economies where expansion is required for a trebling of users across the region. Section 1 provides details of fixed line numbers and growth.

In those same developing economies affordability is also a constraint with the combined cost of connection and access making internet access relatively high in per capita incomes terms.

The fixed line sector in these economies is not open to significant competition or investment and they are not achieving the growth in fixed lines penetration that was expected when APEC set its goals in 2000. It is clear that liberalisation in these economies is a particular challenge and will require a careful regulatory approach but the present policy settings have stalled expansion and are likely to continue to do so.

Figure 39: The number of internet users and fixed-line penetration in the APEC region since 2000.



Source: APEC Tel and ITU.

Mobile technology not yet ripe for data

The boom in telecommunications in the region since 2000 has been in the mobile sector with widespread coverage and rapidly increasing penetration. Mobile and wireless telecommunications will be the key to achieving the Brunei Goals but in 2004 the technology in use is not capable of providing widespread data access to the internet at cost effective rates.

As unused and new satellite capacity is made available and technology is adapted it is likely that there will be a sharp increase across the region in internet access including from users in the areas not yet serviced by other alternatives.

Liberalisation and competition has driven the expansion in the mobile sector and it is likely to induce further innovation in the next few years.

(2) Other constraints to access

Personal computers and other access devices

Access to the internet is still primarily through a desktop computer although this is changing as other hand-held and mobile devices designed for internet access are coming on the market.

Even if the users had access to telecommunications infrastructure many individuals and small businesses that a computer or access device or the combined cost of access with the computer is too high. Total affordability of access contributes to the constraints on expansion of individual access in developing economies making the tripling to 2005 difficult to achieve.

This points to the importance of increasing the capacity of group or community access or at least developing capacity to utilize the services of the internet for specific purposes for small business, education and training, and government services.

The real price of computers and other devices continues to fall and in the years ahead this factor will weigh less as a constraint to access.

Websites, language and skills

The internet is dominated by the English language in the APEC region. In non English speaking economies, widespread access depends on either learning English or the development of websites and content in the home language.

Some economies have been successful in tackling both issues, especially in recent years with vast numbers of web pages in Chinese, Korean, Japanese and Spanish. There is also increasingly creative use made of graphics and sound to facilitate access.

Language and content are particular constraints in ASEAN economies where access levels are still very low and English language skills are not always widespread. There is limited incentive to provide a wide range of home-language content and websites when user levels are relatively low. If the perceived benefit of access by potential users is considered marginal this cycle limited use will tend to continue.

This underpins the vital role of internet access for schools and other learning institutions to ensure that young people have exposure and training both in language and comprehensive use of the internet especially when they do not have individual access at home.

Electricity

A lack of electricity or reliable power may seem a distant problem for current internet users but it remains a constraint in many rural and outlying areas within the region.

There are other forms of power generation which can be used for charging computers or other mobile devices but supplying them along with internet requires a determined approach not just for internet access but economic for development more comprehensively.

(3) APEC achievements since 2000: broadening, intensifying and integrating

Along with a doubling of new users, the APEC region has brought unprecedented developments for existing users.

High speed access and greater bandwidth across most APEC economies and developments in wireless technology is enabling the full potential of the internet to be tapped. This broadening and intensifying is already enabling business, governments, communities and individuals to integrate the internet into daily operations and services. There many are examples of how this is being done through e-government, e-commerce, trade facilitation and security, education and health services. These are discussed in more detail in other sections.

APEC working groups are placing considerable emphasis on promoting and facilitating these new developments alongside their efforts to increase the numbers of internet users. APEC is well suited to this form of cooperation. It includes in its membership some of the world leaders in these fields as well as economies that just embarking on bringing internet to their communities.

The high priority APEC has placed on productive integration of the internet is in line with the vision that APEC Leaders laid out for both the Brunei Goals and the e-APEC strategy: to use the internet to step up growth and development.

The time leading up to the 2010 goalpost is likely to produce further unprecedented changes and innovations. The developments in wireless technology, in particular, are expected to move rapidly in the next few years to provide opportunities for all communities to gain internet access. A greater challenge will be the integration of the internet and the APEC contribution will play a vital role in its success.