

Asia-Pacific Economic Cooperation

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APEC and its response to the ICT promise

The Asia-Pacific Economic Cooperation (APEC) is a forum working towards facilitating economic growth, cooperation, trade and investment among a select group of economies in the Asia-Pacific region. The organisation has 21 members: Australia, Brunei, Canada, Chile, China, Hong Kong, Indonesia, Japan, South Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, Philippines, Russian Federation, Singapore, Taiwan, Thailand, USA and Vietnam.

APEC prides itself on being the only intergovernmental group that operates on the basis of non-binding commitments, open dialogue, and equal respect for the views of all participants. In contrast to WTO or other multilateral trade bodies, APEC does not impose treaty obligations on its members. Instead, decisions are reached by consensus and commitments are undertaken on a voluntary basis.

APEC's vision of "free and open trade and investment in the Asia-Pacific by 2010 for industrialised economies and 2020 for developing economies" is articulated in the Bogor Goals.¹ The grouping has worked to reduce tariffs and other trade barriers across the region since its establishment in 1989. It has launched a number of initiatives since the 1990s to respond to both the prospects and the challenges offered by the rapid growth of the ICT sector.

This chapter reviews APEC's ICT policies and initiatives, focusing on three areas. First, we look at APEC's ICT policy pronouncements and initiatives. Then we survey APEC's institutional mechanisms set up to help it achieve its ICT goals. Finally, we consider the progress made thus far in achieving the goals of the e-APEC Strategy, APEC's central ICT policy.

ICT initiatives and policy announcements

This section examines the ICT policies of APEC, ranging from broad policy pronouncements to specific initiatives that it has launched for the APEC region.

e-APEC Strategy

The centrepiece of APEC's ICT initiatives is the e-APEC Strategy² launched in 2001 at the 13th APEC Economic Leaders' Meeting in Shanghai. The strategy is very comprehensive and action oriented. It signals APEC leaders' appreciation of the revolutionary impact of ICT and the enormous potential of the new technologies, when properly harnessed, for improving people's standard of living. The e-APEC Strategy identifies the necessary policy environment and specifies appropriate goals and actions to take to maximise the benefits of the ICT revolution, address the digital divide, and thus reap the benefits that can be derived from the opportunities presented by the emerging "new economy". The strategy provides a forward-looking, long-term and action-oriented plan with three major prongs of action:

1. Creating an environment for strengthening market structures and institutions
2. Creating an environment for infrastructure investment and technology development
3. Enhancing human capacity building and promoting entrepreneurship

The following are the goals stated for the first prong of creating an environment for strengthening market structures and institutions:

- Promoting economic growth with a sound macroeconomic framework
- Introducing structural reform to promote investment and trade liberalisation
- Accelerating market-oriented regulatory reforms
- Ensuring well-functioning financial markets and good corporate governance
- Adopting policies that reduce barriers to competition and maintaining an open policy stance for international trade and investment so as to reduce the costs of hardware, software and services, improve international standards and promote e-commerce

- Encouraging the growth of venture capital markets
- Protecting intellectual property rights by encouraging APEC-wide implementation of the provisions of the WIPO Copyright Treaty, the WIPO Performances and Phonograms Treaty, the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement, the Berne Convention and the Rome Convention
- Introducing policies that reduce uncertainty and enhance the efficiency of the price mechanism in allocating resources

The second prong of action, aimed at facilitating a supportive environment for infrastructure investment and technology development, concentrates on the following objectives:

- Creating an appropriate legal and regulatory environment, such as enacting electronic transaction laws based on UNCITRAL models; establishing authentication mechanisms such as electronic signatures; ensuring information and infrastructure security as well as personal data protection to build consumer trust; ensuring access to digital information; and encouraging the development of standards that are flexible enough to encourage innovation
- Ensuring the presence of basic information and communication infrastructure that is accessible as well as efficient value chain services such as transportation, customs, express delivery, and banking and payment systems

Finally, under the third prong of enhancing human capacity and promoting entrepreneurship, the following are identified as central areas of concern:

- Addressing the digital divide by fully implementing and adopting APEC's Digital Divide Blueprint for Action (discussed later) to tackle issues identified at the APEC Summit in Brunei
- Building people's capacities by providing access to high-quality education as well as lifelong learning and training through strong partnerships between the government, the academia and the business community
- Strengthening technology cooperation and information exchange
- Encouraging and supporting entrepreneurship and the development of small and medium enterprises
- Ensuring effective and extensive utilisation of ICT applications

APEC economies were urged to take concrete actions to turn the e-APEC goals into reality, which would help to spread the benefits of the new economy, speed up economic development, and revitalise not only the regional but also

the global economy. Member economies and relevant APEC forums were also encouraged to implement the e-APEC Strategy through broad cooperation and collaboration.

In June 2004, the First High Level Symposium on e-Commerce and the First APEC Business Alliance Forum were held in China, where the report *Implementing the e-APEC Strategy: Progress and Recommendations for Further Action* was released. The report assessed the progress made by APEC economies to date and recommended further actions needed in implementing the strategy. Eight important findings were made by the study:

- The e-APEC Strategy is growing in importance.
- The Brunei Goals remain a fundamental cornerstone of the strategy.
- APEC will double, rather than triple, Internet access by 2005.
- Member economies have made significant improvements in e-infrastructure.
- Increased competition and market-oriented policies have helped innovation and investment.
- APEC economies are leading the world in areas such as broadband, e-government services and mobile services, but some members are falling behind.
- APEC's goals and targets and the work of APEC forums are key elements for advancing the e-APEC Strategy.
- Building skills and capacity is the most pressing need for APEC economies.

These findings will be considered in detail later in the chapter.

Policies on trade and the digital economy

A second important and far-reaching initiative on ICT is the Leaders' Declaration to Implement APEC Policies on Trade and the Digital Economy as a pathfinder activity³ in 2002. Sixteen economies voluntarily participated in the initiative, which focuses on efforts to liberalise the trading environment for the digital economy so that products and services can be exchanged over electronic networks free of tariffs and other barriers.⁴ The declaration is based on five general objectives. First, the digital economy should continue to flourish in a liberal and open trade environment, which is expected to lead to greater development of e-commerce and thus economic growth. Second, commitments to market access and national treatment across a broad range of relevant sectors will promote trade in products and services over electronic networks. Third, where legitimate policy objectives require domestic regulations that affect trade over electronic networks, such regulations should be transparent, non-discriminatory, and least restrictive on trade. Fourth, in view of the importance of liberalisation of digital trade, member economies support a long-term moratorium on

customs duties on electronic transmissions. Finally, member economies support demand-driven capacity-building projects that promote trade and the digital economy, with a view to ensuring that developing economies benefit fully from the new economy.

The declaration, while voluntarily entered, is a very influential agreement because of its comprehensive coverage. A quick look at some of the specific areas of action included demonstrates its influential policy impact. Firstly, APEC economies agreed to take a collective leadership role in WTO negotiations to pursue market openness in areas related to trade in the digital economy, including encouraging other WTO members to pursue the same degree of openness.

Secondly, APEC economies identified and committed to exchanging information on the following services related to e-commerce: telecommunications and value-added services, subscription video services, computer and related services, advertising, distribution, express delivery, and video rental/leasing. In addition, for services deemed critical to e-commerce, each economy will (a) reduce progressively or eliminate limitations on the number of suppliers permitted to supply such services; (b) reduce progressively or eliminate limitations on ownership and control that prevent significant foreign investment in the supply of telecommunications services or that prevent majority ownership or control of suppliers of other services; and (c) otherwise accord market access and national treatment with a minimum of exceptions.

Thirdly, APEC economies agreed to fully implement and enforce WTO's TRIPS Agreement. They also agreed to ratify and fully implement the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty as soon as possible, while APEC economies that are not members of WIPO will implement the provisions of these treaties. Economies that are in the process of reviewing accession or implementation of these agreements will expedite their review.

Fourthly, with regard to tariffs, the economies agreed to become participants in the Information Technology Agreement (ITA), and to present their schedule of commitments to the WTO ITA Committee, as soon as possible. Economies that are negotiating to accede to WTO will consider becoming participants in the agreement. The economies also concurred to work towards eliminating tariffs on additional IT products at the broadest level possible. They will submit their annual tariff and trade data to the WTO Integrated Data Base. Those that are not WTO members will submit equivalent data to the APEC tariff database.

In 2004, APEC ministers agreed on three IT products⁵ to consider for possible tariff elimination, as well as comparable liberalisation of other products of interest to member economies.

In view of the importance of effective intellectual property rights (IPR) protection and enforcement regimes to promoting investment, innovation and economic growth,

APEC ministers agreed on the need to draw up an APEC Comprehensive Strategy on Intellectual Property Rights in 2005 which will aim to reduce piracy, trade in counterfeit goods and online piracy, as well as to increase cooperation and capacity building in this area. A proposal has been made to survey member economies' best practices for combating optical disc piracy, and members are encouraged to implement the APEC Effective Practices for Regulation Related to Optical Disc Production. The IPR Policy Progress Mapping project is another measure to strengthen business confidence in the APEC region. The establishment of IPR service centres has begun in some member economies, and other members are encouraged to follow suit. Member economies are also encouraged to hold training seminars on IPR enforcement based on the guidelines set out in the comprehensive strategy. China will host a high-level symposium on IPR in 2005.

Recognising that the development of effective privacy protection mechanisms, which must at the same time avoid restricting information flows, is important to continued trade and economic growth, APEC ministers endorsed the APEC Privacy Framework and the Future Work Agenda on International Implementation of the APEC Privacy Framework. They also endorsed APEC's Strategies and Actions towards a Cross-Border Paperless Trading Environment.

Acknowledging the importance of the World Summit on the Information Society (WSIS) for the continuous development of the global information society, APEC will formulate its input to the second phase of WSIS,⁶ which will be held in Tunis in November 2005.

Strategies to promote e-commerce

APEC first acknowledged the vital role of ICT in the growth and development of its member economies in 1994 at ITU's launch of the concept of a global information infrastructure. APEC's Working Group on Telecommunications and Information (APEC TEL) led studies on how an APEC information infrastructure could be constructed.⁷

In 1997, APEC leaders signed the Multilateral Information Technology Agreement. The agreement arose from recognition of the huge potential for economic growth through the promotion of e-commerce, which can help to reduce cost, increase efficiency, improve the quality of life, and facilitate the greater involvement of small and medium enterprises in the global economy.

In 1998, APEC launched its Blueprint for Action on Electronic Commerce.⁸ Recognising that its members were at different stages of development and had different regulatory, social, economic and cultural frameworks, APEC leaders agreed to cooperate to ensure that all member economies benefit from e-commerce. Four principles govern APEC's e-commerce development agenda:

1. The private sector should take the lead role as innovators and developers of e-commerce technology, applications, practices and services.
2. The government's role is twofold: to promote and facilitate the use of e-commerce as a lead user and to create a favourable regulatory environment that is predictable, transparent and consistent.
3. While recognising that some degree of government regulation may be necessary, technology-neutral, competitive market-based solutions that are safeguarded by competition policy and effective industry self-regulation are preferred.
4. The government and the business sector should cooperate to develop technologies as well as policies that enhance trust and confidence by addressing relevant issues such as reliability, privacy, authentication and consumer protection.

Action agenda for the new economy

At the APEC Summit in Brunei in 2000, the Action Agenda for the New Economy was launched with the aim of maximising the benefits of the emerging new economy for all APEC economies.⁹ In line with this, a Digital Divide Blueprint for Action¹⁰ was issued in November 2000. The blueprint's highlight is the goal of enabling members of urban, provincial and rural communities in every member economy to have individual or community-based access to information and services via the Internet by 2010. A first step towards this goal is the target of tripling the number of people in the APEC region with individual or community-based access to the Internet by the year 2005. Additionally, APEC launched a number of initiatives such as e-commerce readiness assessment, paperless trading, electronic individual action plans, and capacity building of institutions and human capital in areas related to e-commerce.

APEC also initiated a knowledge-based economy (KBE) strategy (APEC 2000 Year KBE Strategy) that aims to maximise the potentials of ICT, develop human resources, and establish a facilitating legal and regulatory framework to boost member economies' abilities to engage in broader trade and investment liberalisation.

Initiatives to protect the security of infrastructures

Another landmark policy on ICT was launched in May 2002 at the Fifth APEC Ministerial Meeting on the Telecommunications and Information Industry in Shanghai in the form of the Statement on the Security of Information and Communications Infrastructures, which embodies recommendations from the UN General Assembly Resolution 55/63 on Combating the Criminal Misuse of Information Technologies. In order to implement the recommendations in the statement, APEC TEL disseminated

a compendium of IT security standards and undertook a survey of cyber-crime legislation. It is also strengthening the capacity of institutions through the Cybercrime Legislation and Enforcement Capacity Building and the CERTs Awareness Raising and Capacity Building projects. It has supported the production of a simple guide to educate Internet users on potential problems such as viruses, Trojan horses, spyware and invasion of privacy.¹¹

A year later, in 2003, APEC TEL concentrated its efforts on addressing the issue of cyber crime with the launch of an APEC Cybersecurity Strategy. The Cybercrime Legislation and Enforcement Capacity Building Project also held its first meeting in Thailand, where member economies were encouraged to further work on developing laws and procedures to facilitate the investigation and prosecution of cases of cross-jurisdictional cyber crime. APEC also promoted the development of an international network of Computer Emergency Response Teams (CERTs).

Efforts to build human capacity

Acknowledging that building ICT skills and capacity is the most pressing need for APEC economies in order for them to reduce the digital divide and to facilitate trade, in 2003 APEC released its Five-Year Strategic Plan for e-Learning. The plan contains recommendations for improving students' and teachers' access to the Internet, the availability of innovative educational content over the Internet, and teachers' capacity to use technology. It also addresses policy issues raised in implementing e-learning efforts across the APEC region.

In addition, a special coordinating group of human resource specialists was established to work towards improving the coordination and the efficiency of APEC's efforts in human capacity building. Two organisations are notable for their work in capacity building. The APEC Education Foundation undertakes initiatives to enhance the ICT capacity of small and micro enterprises, while the Consortium for APEC Cyber Education Cooperation works to reduce the digital divide in the APEC region by creating a wide learning community of teachers, learners, researchers and administrators.¹²

Key implementers of the e-APEC Strategy

Five main groups are in charge of implementing the e-APEC Strategy and other related plans. Other committees or bodies are also involved in the process from time to time. The five groups are briefly described below.

APEC Telecommunications and Information Working Group (APEC TEL)

APEC TEL endeavours towards improving the telecommunications and information infrastructure in the APEC region and facilitating effective cooperation, free trade and investment, and sustainable development. Its programme of action covers the implementation of the e-APEC Strategy and the Digital Divide Blueprint for Action, the promotion of policy and regulatory measures to liberalise the telecommunications and information sector, e-security, e-government, mutual recognition arrangements for the conformity assessment of telecommunications equipment, human capacity building, and active dialogue with the business community.

Established in 1990, and like other APEC working groups, TEL is made up of experts from each APEC member economy and works according to the directions of APEC leaders, ministers and senior officials. Four steering groups working on liberalisation, business facilitation, development cooperation, and human resource development propose, implement and monitor projects and activities to advance the overall goals of APEC. The private sector is actively involved in TEL activities, including in all four TEL steering groups. Many projects are initiated and driven solely by the business community or in cooperation with the public sector.

TEL recently launched its own website at <http://www.apectelwg.org>, which is very well organised, easy to navigate and user-friendly. The site contains vital information, both current and historical, on the working group's history, policies, research and activities.

Electronic Commerce Steering Group (ECSG)

ECSG is responsible for ensuring that the benefits of e-commerce are maximised in the APEC region by promoting and facilitating the development and use of e-commerce through creating legal, regulatory and policy environments that are predictable, transparent and consistent.¹³ Its job also covers data privacy, consumer protection, cyber security, paperless trading, trade facilitation and spam. Member economies recently approved a revised structure for the group and agreed to increase cooperation with OECD and the Global Business Dialogue on Electronic Commerce.

The group was established in February 1999 by the Senior Officials Meeting following the launch in 1998 of the Blueprint for Action on Electronic Commerce. Its mandate was extended to February 2005.

At the ECSG's ninth meeting in Santiago, Chile, in February 2004, approval was given for the establishment of the APEC Public-Private Partnership Dialogue on Paperless Trading to assist in the development of the APEC Paperless Trading Agenda.

e-APEC Task Force

This task force was formed to coordinate initiatives to develop and expand the Action Agenda for the New Economy. To fulfil this mandate, the task force developed a strategy that identifies the necessary policy environment and specifies appropriate goals and actions, drawing upon existing efforts and ongoing works within APEC.

As a special task group established to explore a topical issue and make recommendations about important areas for APEC's consideration, the task force was dissolved after it had drawn up the e-APEC Strategy. The work of achieving the goals became the responsibility of existing committees and workgroups.

Committee on Trade and Investment

This committee was established in November 1993 through the Declaration of an APEC Trade and Investment Framework. It works towards the reduction of impediments to business activities in 15 key areas outlined in the Osaka Action Agenda, namely: tariffs, non-tariff measures, services, investment, standards and conformance, customs procedures, intellectual property, competition policy, government procurement, deregulation/regulatory review, rules of origin, dispute mediation, mobility of business people, information gathering and analysis, and implementation of WTO obligations.¹⁴ These areas are considered a key part of the e-APEC Strategy. The committee also works on trade facilitation and secure trade as well as addresses issues related to the Paperless Trading Agenda. The committee meets three times a year and provides a forum for APEC economies to discuss trade and policy issues. In 2004, it adopted a short list of five priorities on which it will be focusing its efforts; IPR is one of them.

Economic Committee

This committee was established at the Sixth APEC Ministerial Meeting in Jakarta, Indonesia, in November 1994.¹⁵ It conducts research on economic trends and issues in the APEC region in support of the grouping's priority agendas. It also serves as a forum for APEC economies to discuss economic trends and issues. The committee has carried out extensive work on the new economy and KBE issues, such as the patterns and prospects of technological progress in the APEC region and the development of industrial clusters towards a KBE. It has published an extensive report on these issues, entitled *The Drivers of the New Economy: Innovation and Organizational Practices*.¹⁶

Update on the implementation of the e-APEC Strategy

Achieving the goals of the e-APEC Strategy has become increasingly crucial to APEC economies in the light of the rising importance of ICT as a critical means of economic integration. One important aspect of the strategy is its set of policy actions intended to make economies more productive and efficient by providing an open and seamless trading environment. The goals of these policies include establishing good governance and transparency, generating more opportunities for small enterprises, and making more choices available to consumers and the labour force. This section discusses the progress made thus far in the achievement of these goals. It focuses on six major findings of a Pacific Economic Cooperation Council (PECC) study commissioned by the APEC Senior Officials Meeting.¹⁷

Internet access will double, not triple

An important target of the e-APEC Strategy is the Brunei Goal of tripling the number of people who are able to access the Internet by the year 2005. According to the PECC study, APEC will likely double rather than triple the level of Internet access by that year. The shortfall comes from developing economies, where the increase in access is still relatively slow. Two major factors behind this sluggish growth are the slow expansion of fixed-line access and the high cost of telephone services and Internet access relative to per-capita income. A prescribed solution is to roll out affordable new-generation technologies such as wireless and satellite communications. It is worthwhile to note that China and Peru have been outstanding performers in terms of Internet penetration.

Improvement in e-infrastructure

As regards the development of e-infrastructure, APEC economies have made significant improvement due to a large extent to the fast-expanding mobile phone sector, which led to rapid increases in teledensity and telephone coverage across the region. The introduction of broadband has also given consumers more efficient access to the Internet. South Korea has become a world leader in the deployment of broadband, while other APEC economies are also expanding broadband services through the use of cable and DSL technology. Mobile and wireless communications are foreseen to play a key role in helping APEC achieve the Brunei Goals.

Increase in competition and investment

According to the PECC study, increased competition and the introduction of market-oriented policies have led to

innovation and further investment in e-infrastructure in the APEC region. Most APEC economies have become more open to international competition and as a result have gained benefits through improved teledensity and better services. APEC sees the continuation of market-oriented and pro-competitive policies as crucial for further infrastructure investment, since there is a consensus among its member economies that infrastructure should largely be built by the private sector. Thus, government policies should focus on establishing appropriate regulatory regimes that are sufficiently flexible to adapt to industry changes. In the APEC region, Hong Kong and Singapore led the way in opening up markets between 1998 and 2003, while Chile currently has the most accessible market.

APEC has also agreed to adopt the WTO Reference Paper on Basic Telecommunication as the basic template for establishing telecommunications regulatory regimes. However, more subtle and operational practices may be needed for transitional APEC economies. APEC TEL is working on improving understanding of telecommunications issues as well as sharing information on regulatory changes during its biannual meetings. It has also embarked on developing best practices based on the WTO reference paper, which will help to enhance regulatory performance in the region.

Facilitating seamless trade

APEC is now benefiting from the application of e-strategies in facilitating and securing trade. Significant progress has been made in the area of paperless trading, with APEC setting the target of reducing or eliminating the requirement for paper documentation and communications in cross-border trade by 2005 for developed economies and 2010 for developing economies. As of 2004, 15 APEC economies had prepared unambiguous individual action plans¹⁸ for achieving the goal. APEC has also begun its pathfinder initiatives for electronic sanitary and phytosanitary certificates and electronic certificates. Electronic data interchange systems have been developed so that business users can interface readily with customs and other authorities. Also, cooperation is underway to develop a "single window" approach for all relevant transactions. In November 2004 at the 16th APEC Ministerial Meeting, the Strategies and Actions towards a Cross-Border Paperless Trading Environment was endorsed. This agreement is a comprehensive strategic plan that aims to provide a paperless trading environment and enable the electronic transmission of trade-related information across the APEC region within the timetable of the Bogor Goals.

In addition, the Secure Trade in the APEC Region Initiative was launched to guard against terrorist attacks on trading systems. Following the September 11, 2001 attacks on the USA, APEC economies are now cooperating in

several international and APEC-led initiatives such as the US-led Customs–Trade Partnership Against Terrorism, the Container Security Initiative, and the 24-Hour Advance Cargo Manifest Rule, which applies to cargoes entering North American ports.

Building a supportive e-commerce environment

Increased adoption of e-commerce largely depends on the integrity and security of the e-commerce system as well as ready access to the Internet. APEC is working at the country level with the business sector and with OECD to ensure that local, regional and international efforts on e-commerce are coordinated. A major focus is on the protection of the personal information of consumers. APEC is also developing a set of privacy principles and implementation mechanisms to facilitate information exchange while protecting data privacy within individual economies.

The grouping is also involved in capacity-building efforts to assist member economies implement the Voluntary Consumer Protection Guidelines for the On-line Environment agreed upon by APEC ministers in 2002. It has also initiated a survey on the problem of spam throughout the APEC region to determine the adequacy of national enforcement laws and agencies.

Integrating e-government services

Some APEC members are world leaders in e-government, while other members are in the midst of establishing their own comprehensive e-government action plan. Member economies are urged to implement the recommendations in the Strategy Report on Promoting e-Government in APEC, which was adopted at the APEC High Level Symposium on e-Government held in South Korea in July 2002.¹⁹

Conclusion

The PECC study argues that it is important for APEC to become more decisive in its choice of pilot projects to pursue by making selections based on a project's strategic value, especially on prioritising skills development and cooperation between APEC groups. While APEC has a valuable and vast range of initiatives, projects, seminars and meetings on issues that relate to the e-APEC Strategy, many are developed and executed in an ad hoc manner with outcomes that only benefit those who take part directly in the activities. APEC itself has relatively scarce resources, so project initiators should constantly give thought to how these projects might add to a more strategic approach within APEC.

APEC has launched many ICT initiatives to promote economic development and integration. As an organisation that promotes trade facilitation and liberalisation, APEC is stressing the adoption of market-based policies that

emphasize the facilitation and liberalisation of trade. APEC economies are among the world leaders in broadband, e-government and mobile services. They are also actively developing national strategies to utilise ICT for economic development and regional integration. However, some member economies are lagging behind. This situation suggests that the digital divide among member economies is real and has yet to be fully resolved.

To resolve this divide, APEC has provided its member economies with targets as well as measures for attaining the goals of the e-APEC Strategy. The agreement of member economies to share information on best practices and to collaborate on capacity building is a right step towards this goal.

Notes

1. Leaders of APEC economies adopted these goals during their 1994 meeting in Bogor, Indonesia. See http://www.apec.org/apec/leaders__declarations/1994.html.
2. http://www.apec.org/apec/leaders__declarations/2001/appendix_2_eAPEC_strategy.html. See also http://www.apec.org/apec/ministerial_statements/annual_ministerial/2001_annual_ministerial.html.
3. APEC introduced the pathfinder initiatives to enable member economies to pilot the implementation of cooperative initiatives prior to their adoption by other members. This approach allows member economies that are ready and willing to commit to faster development in specific areas to do so and is seen as a way to invigorate progress towards the free trade and investment goals.
4. http://www.apec.org/apec/leaders__declarations/2002/statement_to_implement.html. The 16 participating economies are Brunei, Hong Kong, Indonesia, Japan, South Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, Philippines, Singapore, Taiwan, Thailand, USA and Vietnam. In 2004, Australia, Canada and China also joined in.
5. These are multi-chip integrated circuits, digital multifunctional machines, and modems.
6. http://www.apec.org/apec/ministerial_statements/annual_ministerial/2004_16th_apec_ministerial.html. See also http://www.apec.org/apec/ministerial_statements/annual_ministerial/2003_15th_apec_ministerial.html.
7. See http://www.apec.org/apec/ministerial_statements/annual_ministerial/1994_6th_apec_ministerial.html.
8. http://www.apec.org/apec/leaders__declarations/1998/apec_blueprint_for.html.
9. http://www.apec.org/apec/apec_groups/other_apec_groups/new_economy_-_e-apec.html. See also http://www.apec.org/apec/leaders__declarations/2000/annex_1_-_action_agenda.html. According to APEC's *Economic Committee Report* published in 2000, there are four elements to the new economy: (1) an effective innovative system, (2) human resource development, (3) efficient IT infrastructure, and (4) a business environment that is supportive of enterprise and innovation.

10. See <http://www.apectelwg.org>.
11. The guide is available at <http://www.aoema.org/SafetyNet>.
12. http://www.apec.org/apec/ministerial_statements/annual_ministerial/2003_15th_apec_ministerial.html.
13. http://www.apec.org/apec/apec_groups/som_special_task_groups/electronic_commerce.html. See also http://www.apec.org/content/apec/documents_reports/electronic_commerce_steering_group/2004.html and <http://www.export.gov/apeccommerce>.
14. http://www.apec.org/apec/apec_groups/committees/committee_on_trade.html.
15. http://www.apec.org/apec/apec_groups/committees/economic_committee.html.
16. The report can be found on <http://www.apec.org>.
17. This section draws a great deal from the study's report, *Implementing the e-APEC Strategy: Progress and Recommendations for Further Action*, published in November 2004. The report is available at <http://www.pecc.org> or <http://www.apectelwg.org>. Established in 1980, PECC is a tripartite partnership with representatives from business, government and academic circles who participate in their private capacity to discuss current policy issues in the Asia-Pacific region. PECC became the first non-governmental official observer of APEC in 1989.
18. <http://www.apec-iap.org>.
19. http://www.apec.org/apec/ministerial_statements/annual_ministerial/2002_14th_apec_ministerial.html.