(DRAFT) APEC Internet Economy Principles

In 2015, APEC Leaders recognized the importance of the Internet and digital economies to the future of regional growth by adopting the APEC Accord on Innovative Development, Economic Reform and Growth and establishing the APEC Ad Hoc Steering Group on the Internet Economy. This work builds on previous initiatives including the Action Agenda for New Economy in 2000 that articulate a vision to enable all our economies capture the full economic and social benefits of the emerging new economy and the E-APEC Strategy of 2001.

Since then our economies, as well as the overall regional APEC economy, have been transformed by the increasingly rapid growth of the Internet Economy and the integration of digital technologies into all walks of life. In recognition of this transformation we adopt these principles and actions to facilitate technological and policy exchanges among member economies and to promote innovative growth that is both inclusive and sustainable, as well as to address the potential for a growing digital divide to otherwise emerge in our region:

1. To develop secure **digital infrastructure**
2. To promote **interoperable and secure platforms**
3. To develop and ensure **universal broadband access**
4. To adopt **holistic** (whole-of-government) **government policy frameworks for Internet Economy**
5. To promote a **cloud-first** agenda for government
6. To ensure regional **regulatory equivalence regimes**: in data transfers and privacy, in data protection, in transactions
7. To promote seamless **cross-border data flows**
8. To strive for common **digital ID**s
9. To establish baseline **Internet Economy measurements**
10. To advance **open data** programmes
11. To equip all APEC citizens to be **digital literate participants** in the Internet Economy

1. Development of digital infrastructure

1.1 The use of the Internet and of Internet Protocol (IP) standards for communications systems throughout the economy – from public fixed and mobile telephone networks to private networks used by banks, payment systems companies, airlines, and corporations to government and public service networks – create the structural foundations for the Internet Economy. While today not *all* digital traffic is everywhere moved over networks employing IP, it *is* increasingly the case the infrastructure employs IP. It has become the pervasive paradigm of the Internet Economy. IP-enabled networks form the foundation of the emerging Internet Economy; not just for Internet-based companies, but inclusive of *all* sectors of the economy that make use of the Internet or IP-enabled networks. This is particularly pertinent for the APEC region wherein lower-income economies have a realistic opportunity to leapfrog into becoming Internet Economies and digital societies.

1.2 As a society makes the progression towards the Internet Economy, two developments are necessary at the technical level. First is the *interconnections* of networks, made easier by the deployment of IP. This brings greater economies of scale, as the fixed costs of network rollout are spread across a *greater level of output* bringing about a fall in unit costs. Second is the *interoperability* of operating system platforms that rely upon the networks to support various applications.

2. Promotion of interoperable platforms

2.1 Interoperability of platforms bring about economies of scope, as fixed costs are spread across a wider range of output of different products and services. Economies of scale and of scope create a virtuous loop; they drive down costs, increase user choice of products and services, and that in turn stimulates market innovation and the growth of the Internet Economy.

2.2 The interconnectivity of networks and interoperability of platforms are the fundamental requirements for the enhancement of economic and social interactions that comprise the digital society. An obvious and prominent example is the rise of social media and its use for a multitude of economic and social purposes, such as e-commerce and e-government.

2.3 Interoperability (and interconnection) *policy* frameworks have largely focused at the network layer. However, in an Internet Economy it is not only the networks that need to be able to interoperate to facilitate economies of scale and scope, it is the platforms. Increasingly, we 'live' and interact on and between platforms, and if these cannot *talk* to each other, if they exist as 'walled gardens' or their own 'space', then they immediately limit the level of cross-pollination and interaction that can take place. When new service providers enter a market they have an incentive to connect with as many users, and therefore as many other service providers, as possible. But over time as platforms grow they can find themselves in positions where it may appear attractive to limit outside participation into and onto their platform: they have built the platform, they have conducted the user acquisition, why therefore should they share that work with 'free riders'?

2.4 In previous iterations of network industries, we have seen the benefits that accrue through network participation and open participation, while recognizing the investment that is required for network buildout. These same issues are now playing out at the platform layer, but are not always readily appreciated in the same terms. As we move into an Internet Economy, where all sectors of economic and social development are increasingly empowered by the underlying digital infrastructure, the importance of platform interoperability is even more powerful than it was in a previous era of network interconnectivity.

2.5 'Platforms' from this perspective need to be defined as broadly as possible (and in many cases will include what have previously been thought of as 'networks'). And common standards (including the use of open APIs) for platform interoperability need to be agreed upon and promoted.

3. Work to develop and ensure universal broadband access

3.1 In 2000, we set the goal to triple the number of people within the region with individual and community-based access by 2005. Today, the quality of access is just as important as access itself. Recognizing this, the level of broadband access needs to be defined in terms that promote development. We suggest a minimum agreed level of 10Mbps, even if it remains a target for many economies to aspire to initially, rather than being able to immediately achieve.

3.2 There needs to be explicit recognition that "universal broadband access" translates to "*everyone* who wishes to be or can benefit from being on the network… ***is on the network***". This immediately changes not only the economics of the underlying infrastructure, but the possibilities for new and innovative business models moving forward. The concept of the "uneconomic citizen" (be that defined in telecommunications or finance terms) is immediately made moot as the multiplier benefits attributable to any and all citizens becomes significant. In other words, there is recognition of the economies of scale and scope that result from "everyone on the network".

3.3 There needs to be recognition of the broad-based economic growth that is enabled by all sectors of the economy being targeted to be on interoperable networks and platforms, e.g. health sector benefits, education sector benefits, and so on.

3.4 Equally, there needs to be explicit recognition of the social development made possible, including through policies and programs of inclusion and universal service access.

3.5 There should also be recognition that such an approach, and set of holistic policies, address what is an otherwise rapidly emerging digital divide – not only *between economies*, but *within economies*. Achieving the transition to an Internet Economy requires both the growth of an ecosystem that will support new entrants into the Internet Economy, and the promotion of backward linkages from the Internet Economy into the traditional economy (e.g. of agriculture and mining, manufacturing production and services, distribution and consumption).

3.6 Governments have a dual role to play in these processes. On the one hand, to remove impediments and roadblocks, for example, to simplify licensing processes, to place business registration and regulation processes online, and to speed-up and make efficient any approvals processes. On the other hand, to promote and facilitate entrepreneurship, encourage domestic and foreign investment and support retraining efforts. Working with industry to encourage the interconnection of networks and their interoperability is another important role for governments, not least by incorporating these principles into e-government and community networks and services delivery. (*NOTE:* Refer also to Principle 4 below)

3.7 Finally, subsidized devices access for marginalized individuals and communities should be considered as a core piece of any universal broadband program, as devices remain the on-ramp to the Internet Economy.

3.8 In terms of connectivity, "universal broadband access" across the region suggests that economies should have sufficient infrastructure and capacity to achieve this. The availability of extensive submarine cable networks serving the region may potentially unlock the economic benefits of the Internet Economy.

4. Adopting holistic government policy frameworks for Internet Economy

4.1 A further aspect of the impact is the cross-cutting nature of the Internet as it increasingly becomes a fundamental input and driver of all other sectors, such as financial services, healthcare, education, tourism and hospitality, and as illustrated in recent years through the sharing economy, transportation, housing, and so on. It is because of its very pervasiveness that holistically understanding the impact and coordinating the benefits deriving from the Internet Economy has become so important. The benefits of an Internet Economy can only be properly captured and maximized if the approach is *coordinated* from the top so that it cuts across and enables all sectors, including with agencies that are not traditionally seen as 'tech' agencies. This includes agriculture and fisheries, manufacturing, manpower, and so on.

4.2 Governments have a dual role to play in these processes. On the one hand, to remove impediments and roadblocks, for example, to simplify licensing processes, to place business registration and regulation processes online, and to speed-up and make efficient any approvals processes. On the other, to promote and facilitate entrepreneurship, encourage domestic and foreign investment and support retraining efforts. Working with industry to encourage the interconnection of networks and their interoperability is another important role for governments, not least by incorporating these principles into e-government and community networks and services delivery.

4.3 Governments and regulators are rightly reluctant to impose technologies and standards, but they have a role to play in encouraging the industry to make choices that enable broad interoperability in sectors that are

considered crucial to public welfare. Adopting such an approach keeps the door to innovation open while at the same time serving the interests of the public.

4.4 To be successful, any such approach needs the overarching and supporting political will. There also need to be models of implementation and best practices for successful government approaches, and this is something that APEC can lead on, and work with third parties on.

5. Promoting a cloud-first agenda

5.1 Governments are increasingly looking to use ICT to modernize their operations, increase effectiveness, and deliver innovative services to their citizens. Within this context, broad recognition is increasing that the unique properties of cloud based services (such as scalability, elasticity, paying only for what is used when used, and high levels of security) often provide the best options. Similarly, for many of the challenges being faced such as exponentially increasing amounts of data requiring storage and processing, escalating cyber threats, the push to reduce budgets and improve efficiencies, and citizen demands for better services, cloud services often provide governments with the most flexible and efficient solutions for empowering future development.

5.2 Governments have never before had the ability to make services accessible to so many citizens on an immediate, as-needed-when-needed basis. But with these opportunities come the need to make information security more resilient, refined and efficient. To meet these objectives, governments need to carefully consider how to operate their ICT environments to take advantage of the benefits of modern computing systems and methods while keeping important data safe. The starting point should be a cloud-first policy that clearly sets out the goals and creates the conditions for achieving those goals. Such a policy should also include a directive that agencies develop a protective security policy. The protective security policy takes account of both physical and

information security. An important component of any comprehensive security policy will be a policy for classifying data, allowing government to appropriately protect different types of data, while discouraging wasting resources on unnecessary and costly security controls for less sensitive information.

5.3 With data classification and an understanding of the required security controls in place, government can then decide on assuring that appropriate controls have been designed and implemented relative to the level of security classification, and to ensure that they are operating effectively on an ongoing basis. A robust risk assessment framework well implemented will maintain the validity of controls and the re-usability or portability of the assessment. How the various agencies, departments and other key government stakeholders address these requirements can go a long way to defining the degree to which the government overall is able contribute to a stronger and more innovative ICT environment for the public sector.

6. Promoting regional regulatory equivalence regimes

6.1 The ability to enforce trade obligations to allow cross-border flows of data will depend significantly on making privacy and security rules more compatible. To promote and accelerate development in areas requiring cross-border data flows APEC economies should establish a framework that promotes regional regulatory equivalence regimes. While regional regulatory harmonization (or alignment) would be ideal, enabling clarity and certainty, in many cases and across many sectors, requiring 'harmonized' *laws and regulations* would be simply too time-consuming, if not infeasible. By contrast, a *regulatory equivalence* framework is able to recognize:

- The differing maturity, differing national characteristics, differing cultures, and, at times, differing enforcement practices, of economies so as to bring them into participation at different levels.

- Differing benchmarks for economies to aspire to. Thus, as economies progress, their commitments ratchet up, allowing economies to sign on at early stages of Internet economy readiness and enjoy regional trade benefits from the outset.

6.2 Areas for regulatory regime equivalence include data protection, payments/ transactions, consumer protection and other services-based sectors.

6.3 The core problems facing both large enterprises and SMEs who need to transfer data across borders are how to ensure compliance with an alphabet soup of general and sector-specific laws and regulations, as well as codes of practice, legal judgments and legal and procedural uncertainties that differ in their details across many jurisdictions. Uncertainty exists at all levels: from policy makers and regulators, to 'data controllers' responsible for collecting, storing and processing data, to persons and entities to whom the data relates. For the efficiency and effectiveness of data protection and of data processing to be scalable across jurisdictions, a level of alignment of terminologies, standardization and common practice is needed.

6.4 APEC's approach to personal data privacy began to take shape in 2005 with the APEC Privacy Framework which "set out a set of nine principles to assist APEC economies in developing data privacy approaches that optimize privacy protection and cross-border data flows." In 2009, APEC ministers endorsed the Cross-border Privacy Enforcement Arrangement (CPEA) which created a framework for regional cooperation in the enforcement of Privacy Laws. Any Privacy Enforcement Authority (PE Authority) in an APEC economy may participate.

6.5 One of its aims is to "provide mechanisms to promote effective cross-border cooperation between authorities in the enforcement of Privacy

Law".[1] This was followed in 2011 with a ministerial endorsement of a Cross-Border Privacy Rules (CBPR) system "designed to protect the privacy of consumer data moving between APEC economies by requiring companies to develop their own internal business rules on cross-border data privacy procedures."[2]

6.6 It follows from the above that *while* (1) there are a set of commonly accepted principles (in the need for individual consent, the need for private sector privacy policies); *and* (2) there is common recognition that the facilitation of cross-border data transfers is an absolute requirement of global trade; *nevertheless*, (3) efforts to coordinate a consistent set of policies towards cross-border data flows are being impeded (despite the benchmarks available from APEC and the OECD) by the variations in laws and regulations across jurisdictions; *resulting in* (4) data service companies coming under increasing pressure to retain the services of lawyers and compliance officers across many different jurisdictions just to keep up with numerous new and revised regulations for different sectors of the economy, including codes of conduct and in some cases court rulings. This pushes up the cost of doing business as uncertainty grows over legal interpretations and the risk of violating data laws increase.

7. Promotion of seamless cross-border data flows

7.1 The expansion and interconnection of the Internet globally has transformed business and the way in which business is done. Any business can immediately reach overseas customers and sell products online. The globalization of the Internet and the ability to move data across borders underpins an increasing amount of economic activity and international trade.

[1] See http://www.apec.org/Groups/Committee-on-Trade-and-Investment/Electronic-Commerce-Steering-Group/Cross-border-Privacy-Enforcement-Arrangement.aspx

[2] See http://www.apec.org/Press/Features/2013/0903_cbpr.aspx. The CBPR is a voluntary, certification-based system that promotes a consistent baseline set of data privacy practices for companies doing business in participating APEC economies. Company privacy policies are to be audited by APEC-recognized Accountability Agents. See http://www.apec.org/Press/News-Releases/2013/0306_data.aspx.

7.2 The Internet is also having an important impact on how businesses *operate* as it creates a more broad-based economy. For instance, businesses can use the Internet to participate in global supply chains, manage customers, and track production. Businesses are also increasingly using digital inputs – whether accessing IT in the cloud, or using Skype to communicate with customers and suppliers – increasing firm productivity and competitiveness in domestic and overseas markets. This creates the conditions enabling growth in international trade, particularly for SMEs.

7.3 As such, the scope and impact of the Internet on trade extends to creating opportunities for people and businesses traditionally marginalized from international levels of innovation and competitiveness, since the costs of trade (and of accessing trade) are reduced. Other more traditional barriers to trade in developing countries such as poor infrastructure, inefficient logistics, and distance to market are also being overcome as the Internet allows for products to be searched for and delivered online.

7.4 Driving adoption and use requires the establishment of frameworks that businesses and consumers can trust. Regulations or actions that introduce or increase uncertainty instead, dampen investment activity and increase compliance costs. Any increase in compliance costs disproportionately impacts SMEs and emerging economies because of the impact it has on trust for new digital activities and opportunities.

8. Common digital IDs

8.1 Accessing government services and conducting many other daily activities depend on the ability to prove one's identity. Physical forms of identification, such as paper or plastic documents, have traditionally been used for identification and authentication, but are less relevant for

accessing digital services. Accordingly, a secure and scalable digital identity ecosystem is essential to address the imbalance between the provision of digital services and the ability of citizens to identify themselves on digital channels.

8.2 Whilst connectivity is key to the success of digital services, security is also a central consideration. As the number of digital services has grown and the level of risk individuals are exposed to has increased, governments and businesses recognize the need for more secure and convenient ways of creating, managing and applying digital identities.

8.3 Establishing the framework for the recognition of common digital IDs will have the effect of accelerating a variety of programs and opportunities now constrained by fragmentation and a lack of security and trust. It will, for example, accelerate digital know your customer (KYC) programs and thus financial inclusion; the prospects for digital health (and insurance) programs nationally and regionally; social dissemination and government disbursement programs (including disaster response programs among others).

9. Establishing baseline Internet Economy measurements

9.1 Data is the currency of the Internet Economy. For policy makers to be able to plan and implement successfully, there needs to be both a framework and a process for the collection, accounting, and analysis of statistics and data. And, just as the Internet Economy requires interoperability, so too policy benchmarks require statistics and data to be comparable across platforms, sectors and economies.

9.2 While basic access data such as mobile penetration and broadband subscription indicators have become relatively common at this point, a number of APEC economies still show missing data across basic statistical categories. For effective policy making across the various domains of the emerging Internet Economy, data needs to be consistent,

and regularly updated, and needs to support policy and decision making in planning and developing digital services access and delivery.

9.3 Policy makers and statisticians urgently need to come together to define a better evidence base upon which better public awareness can be built, and more fully informed decisions can be made so as to effectively (i) prioritize and allocate resources at the national level, and (ii) coordinate frameworks at the regional level.

9.4 Recognizing the great diversity across APEC member economies, including in public policy capacity, three steps are needed to begin to address this gap:

a. Consistent and comparable definitions for existing ICT and Internet Economy datasets
b. An Internet Economy framework for applying this data
c. The subsequent *coordinated* development of new Internet Economy datasets to better capture the impact upon economic development.

9.5 As regards the first requirement above, there even exists a *lack* of consistently comparable demographic and ICT data across APEC for effective ICT policy. [3] Governments, development partners and international organizations need to develop and systematize ICT indicators.

10. Advancing open data programmes

10.1 Governments need to be looking to proactively promote *open data*, particularly for public or government data, wherever possible. Globally, governments are increasingly making their non-restricted data available for the public to discover, access, and use. These open data initiatives facilitate the development of public services, fuel entrepreneurship,

[3] UNCTAD: Measuring the Impacts of Information and Communication Technology for Development, 2015.

accelerate research and scientific discovery, and create efficiencies across multiple sectors.

10.2 Government entities should endorse the open data principle and, where technically feasible and economically reasonable, make non-restricted data available to other government agencies and the public. In keeping with this principle and Policy, Government agencies should likewise manage their data assets to promote openness and use for the public good.

11. Equip all citizens to be digital literate participants in the Internet Economy

11.1 An Internet Economy is essentially a knowledge-based economy that comes with specific skillsets, and these are skills that many economies do not yet have enough of. A key objective therefore is in developing the human capacity necessary for the transition, and building a digital environment that is safe and trusted.