



**Asia-Pacific
Economic Cooperation**

APEC HOST ISSUES PAPER

APEC Harmonisation of Standards for
Data & Information Flows

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Australian Government

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Abbreviations

ABAC	APEC Business Advisory Council
APEC-ECBA	APEC E-Commerce Business Alliance
ACCA	Asia Cloud Computing Association
APEC	Asia-Pacific Economic Cooperation
APEC HOST	APEC Harmonisation of Standards Project
APEC SCSC	APEC's Sub-Committee on Standards and Conformance
APEC SMEWG	APEC's Small and Medium Enterprises Working Group
BTA	Bilateral Trade Agreements
CSP	Cloud Service Provider
DEAP	Digital Economy Action Plan
FTA	Free Trade Agreements
GVCs	Global Value Chains
ICT	Information and Communications Technology
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
IT	Information Technology
JTC 1	Joint Technical Committee 1 (ISO/IEC)
JTC 1/SC 17	Cards and personal identification
JTC 1/SC 27	IT Security techniques
JTC 1/SC 31	Automatic identification and data capture techniques
JTC 1/SC 32	Data management and interchange
JTC 1/SC 34	Document description and processing languages
JTC 1/SC 37	Biometrics
JTC 1/SC 38	Cloud Computing and Distributed Platforms
MGI	McKinsey Global Institute
NSB	National Standards Body
NSBs	National Standards Bodies
NTM	Non-Tariff Measures
PII	Personally Identifiable Information
RTA	Regional Trade Agreements
SA	Standards Australia
SMEs	Small and Medium Enterprises
TBT	Technical Barriers to Trade

Foreword

The Hon Kelly O’Dwyer MP, Minister for Small Business and Assistant Treasurer



Megatrends such as cross-border data and information flows are increasingly making their presence felt across APEC and globally. The movement of data is the life blood of any business and underpins international trade in goods and services. The growth of the Internet and emerging technologies such as cloud computing are enabling countless new Small to Medium Enterprises (SMEs) to engage with new markets more easily and cost effectively – particularly as next-generation digital products, services and applications are being developed and rolled out.

Against this backdrop, it must also be recognised that the increasingly complex business environment and huge potential of the internet is also challenging governments, policy makers, regulators and industry to look for fresh approaches and develop new innovative solutions. SMEs are confronting a complex landscape of regulatory, technical and ‘behind the border’ barriers and issues that are impeding their ability to fully participate in Global Value Chains and benefit from growing trade opportunities across APEC and beyond.

One of the benefits for SMEs embracing the digital economy agenda is the potential to unlock access to diversified sources of funding. The ability to source non-traditional funding and investment sources such as ‘peer-to-peer’ finance, venture capital, and crowd-funding where high net worth individuals as well as banks can provide working capital, will spur new business opportunities, generate jobs and build innovation pipelines.

Recognising this situation, APEC has undertaken a number of initiatives to help address the digital divide, including developing a *Digital Economy Action Plan*. Alongside this plan, other initiatives such as the APEC Small and Medium Enterprises Working Group Harmonisation of Standards project (APEC HOST) which Australia is proud to be leading will contribute to furthering this important discussion.

Our intent is that this Issues Paper and the subsequent APEC HOST workshop to be held in November 2015 will help us better understand the important role that voluntary consensus-based international standards can play in assisting APEC’s member economies. In particular, this Issues Paper draws attention to how international standards can fulfil the growing need of SMEs for technical requirements, certification and regulatory compliance; especially in the light of issues raised by SMEs such as operational control, data security, data localisation and privacy concerns.

Dr Bronwyn Evans, Chief Executive Officer, Standards Australia



The movement of data and information across APEC is one of the most important and pressing issues facing SMEs in the region today. The key to unlocking new growth opportunities for businesses and especially SMEs relies upon the ability to operate in multiple markets. This free flow of data across borders is seen as fundamental to enabling businesses to operate in numerous markets without restriction. Efficient movement of data will ultimately have a profound impact on building intra-regional trade and creating additional investment opportunities for SMEs.

This Issues Paper identifies the need for greater alignment and co-operation between standards and regulations. Alignment and cohesion of standards and regulations will assist APEC with realising trade benefits of efficient data movement and ensuring that prosperity is shared amongst the APEC economies. National Standards Bodies have a key role to play in providing standards harmonisation solutions to assist governments, businesses and consumers in dealing with the complex issues surrounding the movement of data. Engaging in standards development deepens public-private sector dialogue and fosters sharing of best practices. It also gives SMEs a platform to ensure that their needs and requirements are taken into account. Standards Australia has taken advantage of its unique position as an independent facilitator of the development of standards to engage with all relevant stakeholder groups across APEC in order to discuss issues surrounding data movement and to consider solutions to overcome existing obstacles.

This Issues Paper is part of a growing dialogue that is taking place at multiple levels and with many stakeholders. Standards Australia and our APEC counterparts are well placed to assist APEC in harnessing the full benefits of economic integration. Standards Australia is proud to be leading this project in association with the Australian Treasury as a means to ensure that APEC economies remain globally competitive.

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Executive Summary

New technologies such as internet-based platforms help lower the barriers to entry for SMEs by giving them greater access to regional and global markets without having to establish physical operations in other countries. None of this would be possible without the free flow of data and information. This will become even more important for APEC as trade in digital goods and services increases, allowing SMEs to fully integrate in Global Value Chains (GVCs) and expand market reach.

This discussion paper analyses the current issues, challenges and opportunities in APEC in relation to supporting the important role that Small to Medium Enterprises (SMEs) are playing in driving regional and global economic growth, productivity and innovation¹. This paper introduces several innovative approaches. The main difference from the previous work by APEC's Small and Medium Enterprises Working Group (APEC SMEWG) work is that this Issues Paper and related work seeks to focus on the role played by voluntary and consensus-based information, communication and technology (ICT) standards in contributing to fostering trade in goods and services. It serves as a background discussion paper for the APEC Harmonisation of Standards Project (APEC HOST) workshop which will be held in Sydney, Australia from 4 to 5 November 2015. It will also provide some insights, perspectives and recommendations for APEC member economies, including helping to contribute to the development of APEC's "Digital Economy Action Plan: Connecting MSMEs to Global and Regional Markets."

On 15 November 1994 in Bogor, Indonesia, political leaders across APEC jointly agreed to work towards the goal of free and open trade and investment in the Asia-Pacific region by no later than the year 2020. To date much progress has been made in APEC to achieve this ambitious outcome on behalf of the region. But there is also growing recognition amongst business and government circles that movement of data warrants increasing attention by APEC member economies if groups such as SMEs are to maximise business and market growth opportunities². To better serve SMEs' development aspirations, there is a need to improve market access to GVCs and reduce Technical Barriers to Trade (TBT) and Non-Tariff Measures (NTMs) which are fundamentally critical to ensuring APEC's continuing global economic competitiveness and prosperity.

Increasing APEC international competitiveness will reinforce the Asia Pacific region's primacy, permitting it to capitalise on growth opportunities. The economic benefits accruing to SMEs from standardisation initiatives, deeper economic links and access to business opportunities will advance SMEs' development, regional positioning, and international importance of trade and standards.

This Issues Paper provides a background to the standards-related issues regarding the movement of data, and provides an explanation of the APEC HOST project and the key project milestones. It also sets the context for uncovering obstacles surrounding the free flow of data and the possible solutions.

1 Refer to APEC website <http://www.apec.org>. In addition, the Australian Government – Treasury and Standards Australia wishes to acknowledge and in particular thank the APEC HOST project steering group.

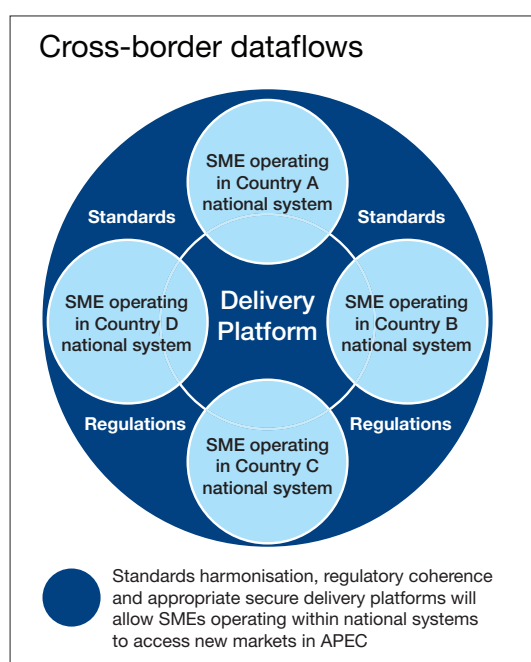
2 For the purposes of this Issues Paper the terms *cross border data and information flows* and *movement of data* are used interchangeably.

Introduction

The rise of digital services is increasingly making the world a global market place. McKinsey estimates that in 2012, the global flows of goods, services, and finance reached \$26 trillion. As the global flows of services have increased, their direction has changed. In 1990, developed economies represented 54% of all goods traded with developed economies. In 2012 this fell to 28%, highlighting the rise in importance of developing economies. If the spread of digital technologies and rising prosperity in emerging economies continues, global flows could nearly triple by 2025³.

Underlying these flows is the dramatic increase in exchange of data and communication across borders. Global online traffic has grown from 84 petabytes a month in 2000 to more than 40,000 petabytes a month in 2012. Cross-border voice traffic has more than doubled over the past decade, primarily due to digital calls. In 2012, Skype® call minutes grew to 39% of the level of traditional international phone call minutes, an increase of more than 500% since 2008⁴.

For the purposes of this paper cross-border data flow and information simply refers to the movement of electronic data across national borders⁵. Much of the discussion and work within APEC to date has focused on the important issues relating to data protection and privacy concerns. However, leading global technology companies such as Ericsson have pointed out that a broader public debate is required. Rather than a sole focus on the issue of compliance, we need a fresh approach to look at this complex and multifaceted matter. For example, what is the opportunity cost of missing out on new business as well as the adverse consequences of restricting existing business opportunities? This question is particularly pertinent to SMEs⁶.



Australia considers it is timely to have an appropriate forum for consultations amongst relevant stakeholders in its immediate region in order to address the opportunities and challenges posed by these advances in technology. Recognising that projects addressing issues relating to the APEC Cross-border Privacy Rules System had previously been undertaken between 2008 and 2011; Australia in 2015 initiated a new APEC SMEWG project to further discussions on this cross cutting issue. The project is titled the *APEC Harmonisation of Standards Project* (APEC HOST).

The Australian led APEC HOST project seeks to provide an opportunity for

3 http://www.mckinsey.com/insights/globalization/global_flows_in_a_digital_age accessed 10 September 2015.

4 Available Online <http://www.economistinsights.com/technology-innovation/analysis/hyperconnected-economy-phase-2> accessed 10 September 2015.

5 For more information, see for example, an article by Mr Joshua Meltzer, The Internet, Cross-Border Data Flows and International Trade, *Issues in Technology Innovation*, The Brookings Institution, No. 22, February 2013.

6 See <http://www.ericsson.com/thinkingahead/the-networked-society-blog/2013/10/22/the-impacts-of-regulating-cross-border-data-flows/> accessed on 10 August 2015.

National Standards Bodies (NSBs), Governments, Regulators, Industry Associations and SME representatives across APEC to engage on the topic of data movement from a standardisation perspective. In the course of this project, stakeholders are considering opportunities for the harmonisation of standards and regulations for data movement across-borders within APEC. Issues such as technical standards harmonisation, privacy, security and regulations will be considered as part of the project with the overarching understanding that enabling cross-border data movement will facilitate trade for APEC businesses, particularly amongst SMEs. Efficient and effective data movement in a secure environment will build market confidence and business connectivity resulting in an increase in trade and investment opportunities.

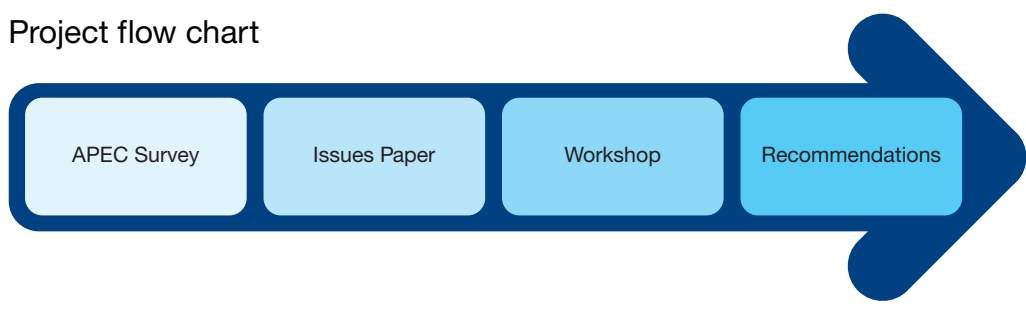
“...The evidence therefore clearly shows that Internet-enabled trade helps to provide a level-playing field for small entrepreneurs. National and export sales are less dominated by the largest firms, and new firms have fairly high shares in overall sales. Because entry barriers for Internet-enabled trade are lower, it is easier for newcomers to enter the market...”

—Enabling Growth for APEC SMEs, eBay and PayPal, November (2014)

The project involves the undertaking of an APEC wide survey designed to gather the perspectives of stakeholders on the movement of data across borders. The survey results inform this paper and highlight the current challenges and opportunities identified by stakeholders for further enabling SME trade throughout APEC economies. The paper provides the foundation for discussions at the APEC HOST workshop scheduled in Sydney, Australia from 4 to 5 November 2015. Stakeholders across APEC will participate in the workshop to discuss issues, hold consultations and deliver recommendations for consideration by APEC member economies.

A recommendations report will be published in early 2016. These recommendations will be designed to assist with furthering other APEC digital economy projects.

Project flow chart



The Movement of Data Across APEC Economies

“Combining globalization with new technology and with new business models has dramatically accelerated the pace of change and innovation. The flow of data is as important as the movement of goods.”

—USTR Michael Froman (2013)

The value of enabling the movement of electronic information to support regional and global integration for SMEs should not be underestimated. Within APEC the rules governing the movement of digital goods, services, data and infrastructure are still incomplete. Aside from the lack of a common rules-based framework, SMEs and businesses are confronted with a myriad of trade-related issues. A complex range of standards and regulations covering the requirements for transfer, disclosure, retention, security, privacy and storage of data make up the bulk of these issues. From the SME perspective this vast array of issues impacts their ability to participate in cross-border markets (i.e. “which markets to serve?”) and develop efficient regional operating strategies (i.e. “how to compete in each market?”).

This issue is even more pronounced where SMEs are attempting to develop business links in overseas markets. The current environment resulting from a lack of appropriate uniform standards and regulations is restrictive to trade. Business-to-business connectivity is a critical element for growing business in this digital age. It is acknowledged that consideration must be given to accommodating privacy and security requirements as well as different regulatory approaches to provide the necessary level of market and consumer confidence. APEC has a leadership role to play in promoting the benefits of the digital economy and helping reduce the digital divide. One of the means of addressing this challenge is the development, adoption and use of voluntary consensus-based international standards developed by ISO/IEC JTC 1, *Information Technology*⁷. The user benefits of these standards to accommodate SMEs’ market needs and requirements is directly dependent on the active (and sustained) involvement of APEC member economies and their SMEs in contributing to the consensus based standards development process.

“Today, business and trade is totally dependent on data flows – data that has to be moved in order to make trade happen and for efficient running of companies.”

—Ms Lena Johansson, Director General, Swedish National Board of Trade (2014)

The ability to access IT infrastructure such as computers, mobile devices, remote data centres, servers, routers, security and cloud computing services is a business necessity for SMEs. Access to these digital products and services allows SMEs to fully participate in Global Value Chains (GVCs). Each year the growth of the internet and the impact of disruptive technologies are increasingly being felt by businesses. If SMEs within APEC are

7 ISO/IEC JTC 1 is the standards development environment where experts come together to develop international Information and Communication Technology standards for business and consumer applications. Further information on JTC 1 can be found http://www.iso.org/iso/jtc1_home.html and readers can also view a brochure titled *The force multiplier for ICT innovation* which outlines the business benefits of using international standards developed by JTC 1, see http://www.iso.org/iso/ict_innovation.pdf

to participate in existing and new emerging GVCs, there is a need for greater technical standards co-operation and regulatory coherence. The focus on trade liberalisation in APEC particularly, on ‘behind the border’ barriers is of paramount importance if intra-regional trade of products, services and technologies are to grow. This message has been delivered by a multitude of stakeholders including businesses, industry associations, trade officials, the APEC E-Commerce Business Alliance (APEC-ECBA) and the APEC Business Advisory Council (ABAC). Through the development of outcomes-based initiatives such as the *Digital Economy Action Plan* (DEAP), APEC has a number of levers at its disposal to improve the business environment for SMEs. These include information exchanges, private and public dialogues and the promotion of participating in international standards development processes, leading to the adoption of best practices, technical alignment and greater regulatory coherence.

Table A. Survey respondents’ use of data movement technologies by percentage for various business purposes		%
E-mail via an ISP		74.3
Cloud based e-mail (e.g. Gmail, Hotmail)		57.1
Video conferencing (e.g. WebEx, Skype)		65.7
Payments systems (e.g. PayPal)		28.6
Sales systems (e.g. Amazon, eBay)		5.7
Messaging systems (e.g. WhatsApp, Viber)		37.1
Funding systems (e.g. crowdfunding)		2.9
Recruitment systems (e.g. crowdsourcing)		11.4
Social media (e.g. FaceBook, LinkedIn)		54.3
Business specific systems (e.g. finance, customer management, payroll)		37.1

It is important to note that the benefits of cross-border data and information flows for SMEs go far beyond the possible impact on international sales. The United States International Trade Commission in its August 2014 *Digital Trade in the U.S. and Global Economies* report highlights the significant benefits of leveraging the movement of data at the firm, industry and economy levels. In addition, the report further makes some important observations:

- Digital intensity is tied to SME growth and export performance;
- The internet lowers marketing and export transaction costs for SMEs;
- A variety of online platforms and services make it much easier and less costly for SMEs to export;
- Secure and convenient payment systems promote SME trade; and
- The growth of mobile devices benefits SME trade⁸.

⁸ USITC, *Digital Trade in the U.S. and Global Economies*, Part 2, August 2014, pp.202f. Readers are also encouraged to look at the Commission’s first report on digital trade, see USITC, *Digital Trade in the U.S. and Global Economies*, Part 1, 2013.

Apart from the considerable benefits outlined above, it needs to be kept in mind that removing barriers will contribute to closer collaboration and partnerships between SMEs. The benefits of which will be evident in all economic activities including; health and medical, front-end engineering design services, education and training, architectural, accountancy, management consultancy, market research and fast-moving consumer products to name a few^{9 10}. In the future, we will see more collaborative platforms being enabled through the movement of data. For example, an Australian SME architectural firm, working with a small Malaysian building products specifier and local Philippines' building company to undertake a turnkey housing project in another APEC member economy will be enabled through data movement. Unlocking these benefits will be a catalyst for deepening economic engagement, employment generation, fostering innovation. This will also contribute to social cohesion and cultural understanding – all of which contributes to APEC's regional integration agenda.

9 A range of case studies can be found in the publication Trade in the Digital Age: helping small businesses think big, <http://www.asiainternetcoalition.org/wp-content/uploads/2013/11/Trade-in-the-Digital-Age-Report.pdf> accessed on 3 September 2015

10 SME case studies can be found in the publication, Enabling Growth for APEC SMEs, November, 2014 <http://www.ebaymainstreet.com/sites/default/files/apec-commerce-3-0-smes.pdf> accessed on 4 September, 2015.

Survey

The APEC HOST survey was launched on 16 June 2015 and submissions were accepted until 17 July 2015. The survey questions were designed to gather three types of data:

- Organisational information – including the type, size and activity undertaken;
- Issues and challenges encountered by organisations seeking to move data and information across economies; and
- Opportunities and potential solutions aimed at overcoming existing obstacles to the movement of data across APEC.

Some of the key findings from the survey were telling.

KEY FINDINGS

- Submissions were made to the survey by industry organisations, small and large businesses, NSBs, SME representatives and government departments from 20 APEC member economies.
- Reflecting the growing contribution of services to APEC's member economy GDPs, a majority of SME respondents to the survey were service-based businesses.
- All SME respondents currently operate or seek to operate in economies beyond the location of their physical operations.
- Whilst most SME respondents required the movement of data for organisational purposes, the overwhelming majority were unaware of the standards and regulatory requirements in the various APEC member economies.
- A major challenge to APEC policy and decision makers is highlighted by the fact that more than one-third of respondents could not explain their current usage or requirements for the movement of data across-borders.
- SMEs have been “standards takers” rather than “standards makers” and this presents a challenge and an opportunity.

The qualitative data and case studies gathered from the APEC HOST survey have informed this paper.

Issues

The survey respondents highlighted a ‘mixed bag’ of issues that inhibit the movement of data across APEC economies. The lack of uptake and adoption by stakeholders of voluntary international standards, the inconsistencies in policy and regulations amongst APEC economies and the large knowledge gap were considered to be the three biggest issues. The challenges faced by some SMEs in developing economies to access relevant technologies were also raised as an issue.

STANDARDS

In 1987 the two premier international standards development organisations, the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) established a joint technical committee, ISO/IEC JTC 1, *Information Technology* (JTC 1), to focus on the development of information, communications and technology (ICT) standards.



JTC 1 is one of the largest and most prolific technical committees in international standardisation. With over 2,600 published standards developed under the broad umbrella of the committee and its 20 sub-committees, JTC 1 makes a huge impact on the ICT industry worldwide¹¹.

The participation rates in various JTC 1 sub-committees that develop international standards, which directly or indirectly support cross-border data and information flows, shows that APEC is under-represented. For example, only eight out of 21 APEC member economies are engaging as Participating members on the sub-committee for *Cloud Computing and Distributed Platforms* (ISO/IEC JTC 1/SC 38). Similarly, just six are represented on the *Data Management and Interchange* sub-committee (ISO/IEC JTC 1/SC 32)¹².

ISO/IEC JTC 1 INFORMATION TECHNOLOGY

Information and Communications Technology standards for business and consumer applications.

Table B (page 15) reveals a very mixed picture of levels of engagement by APEC member economies across JTC 1’s main work streams that support the movement of electronic information. There are some key points that can be gathered from the APEC HOST survey findings as well as this review of participation levels. There is undoubtedly an opportunity for APEC individually and collectively to take stock of their involvement in this ICT standards setting body based on national priorities and market requirements for SMEs.

Secondly, it is evident from the survey snapshot in Table B that there is a lack of awareness by SMEs as well as NSBs of international standards that have been developed to support data and information exchange, security and cloud services. This indicates

¹¹ http://www.iso.org/iso/jtc1_mission_brochure_2014_final.pdf accessed on 10 September 2015

¹² ISO/IEC JTC 1 has one member per country. Countries participate on technical sub-committees as either Participating or Observing members. Under ISO/IEC JTC 1 rules P-members are required to participate actively in the work, with an obligation to vote on all questions formally submitted for voting within the subcommittee, on new work item proposals, enquiry drafts and final draft International Standards, and to contribute to meetings. O-Members can follow the work as an observer, and therefore to receive committee documents and to have the right to submit comments and to attend meetings.

Table B. Engagement by APEC Economies on Information Technology Technical Committees at ISO/IEC JTC 1			JTC 1 Sub-Committee																			
APEC Member Economy	NSB	JTC 1	SC2	SC6	SC7	SC17	SC22	SC23	SC24	SC25	SC27	SC28	SC29	SC31	SC32	SC34	SC35	SC36	SC37	SC38	SC39	SC40
			Coded character sets	Telecoms and info exchange	Software engineering	Cards and personal ID	Programming languages	Digital media	Computer graphics	Interconnection	IT security	Office equipment	Coding of multimedia	Data capture techniques	Data management & interchange	Document description	User interfaces	IT for education	Biometrics	Cloud computing	Sustainability for IT	IT governance
Australia	SA	P	-	-	P	P	-	-	P	P	P	-	P	P	O	-	-	P	P	P	O	P
Brunei Darussalam*	ABCI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Canada	SCC	P	P	P	P	P	P	-	O	P	P	-	P	P	P	O	P	P	P	P	P	P
Chile	INN	O	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
People's Republic of China	SAC	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Hong Kong, China*	ITCHK SAR	O	O	O	O	-	-	-	-	O	O	-	O	O	-	O	-	O	-	O	-	O
Indonesia	BSN	O	P	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	-	-	-
Japan	JISC	P	P	P	P	P	P	P	P	P	P	P	P	-	P	P	P	P	P	P	P	P
Republic of Korea	KATS	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Malaysia	DSM	P	O	O	P	P	O	-	O	O	P	O	O	P	-	P	-	O	P	-	-	P
New Zealand	SNZ	O	-	O	P	O	O	-	-	O	P	-	-	O	-	-	O	O	P	O	-	P
Papua New Guinea*	NISIT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peru	INACAL	P	-	-	P	-	-	-	-	-	P	-	-	P	-	-	-	-	-	-	-	P
The Philippines	BPS	O	-	O	O	-	-	-	-	O	-	P	-	P	-	-	-	-	-	-	-	-
Russia	GOST R	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Singapore	SPRING SG	P	-	O	-	P	O	-	-	P	P	-	P	O	-	-	-	-	P	P	P	P
Chinese Taipei	BSMI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thailand	TISI	O	O	O	P	O	O	O	-	P	O	-	O	-	O	-	-	-	O	-	-	-
The United States	ANSI	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Viet Nam	STAMEQ	O	O	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Brunei Darussalam, Hong Kong and PNG are Correspondent members of ISO. Correspondent members observe the development of ISO standards and strategy by attending ISO technical and policy meetings as observers. Correspondent members can sell and adopt ISO International Standards nationally.

there is a role for bodies such as APEC's SMEWG and SCSC to be involved in educating SMEs on the positive benefits of participating in standards development. All too often, SMEs have been "standards-takers" rather than "standards-makers" and this presents both an immense challenge and great opportunity.

This situation is further complicated by the differing standards, regulations, data privacy, security, hosting and localisation requirements. For SMEs who are trying to develop export opportunities in other APEC member economies the market development process is both costly and complex as businesses need to understand and navigate standards and regulatory hurdles. The additional cost and time burden for SMEs associated with overcoming these hurdles can result in delays in winning business, or worse, risk losing business altogether.

Greater standards and regulatory cooperation within APEC will benefit SMEs as much, if not more, than larger companies. This is because costs associated with complying with standards and regulations are not lower for smaller companies; every product or service provider has to comply with the same standards and/or regulations as they are not scalable. Ultimately, this means that costs of compliance are proportionally higher for SMEs from the outset.

A more effective environment for data movement could therefore have a big impact for small companies exploring new business opportunities across APEC. While APEC has made progress on a number of fronts, more effort and coordination is required.

Organisations such as NSBs have an important role to play in forging a closer joint partnership between regulators, industry associations, academics, consumers, businesses and SMEs.

The adoption and use of international standards, initiating an APEC-wide standards data movement dialogue, as well as contributing towards standards-related solutions that help maximise market participation rates and unlock opportunities for APEC, are all steps in the right direction.

In its 2013 white paper, the Asia Cloud Computing Association (ACCA) made the important point that regulators can obtain valuable industry input from technology users and product/service providers when they design, develop and implement guidelines, regulations or legislation. Furthermore, ACCA argues that both industry and regulators need to work more closely together to understand and better educate each other on the potential impacts of regulatory compliance issues¹³. Extending this approach to a standardisation perspective, we suggest that greater APEC regulator involvement upfront in the development and use of consensus-based international standards could lead to a more streamlined and business friendly regulatory environment. This approach would minimise the need for alternate and costly domestic guidelines, standards and regulations.

13 The Impact of Data Sovereignty on Cloud Computing in Asia, Asia Cloud Computing Association, 2013, p. 80.

The lack of awareness amongst SMEs, businesses, governments and even some NSBs on international electronic data standards is problematic. The information gap means that APEC member economies are less inclined to adopt voluntary international, consensus-based standards that support and facilitate cross-border data and information flows. This inaction adversely impacts the potential growth in the trade of goods and services. It also means that some APEC member economies have focused on developing standards and regulatory solutions at the domestic level when there is an opportunity to partner with other APEC member economies to explore closer collaboration, information exchange and use international standards. It is hoped that the DEAP will be a catalyst for ensuring closer technical standards alignment and regulatory coherence across APEC, thus further contributing to the advancement of SMEs.

Table C. Key obstacles identified by respondents to the free flow of data across borders	
	%
Tariffs	36.7
Regulations	46.7
Standards	50
Access to facilities or services	20
Investment costs	40
Lack of knowledge or information	60

Clearly, APEC has the ability and opportunity to further collaborate with SMEs to help APEC member economies understand and consider adopting international standards that support the movement of data. To gain a more complete understanding of the standards harmonisation impacts for SMEs, an in-depth analysis of both the trade flows and the relevant standards and technical regulations in these specific industry sectors would be required. As yet there has not been a comprehensive review of the economic benefits of using international ICT standards to facilitate trade. Having access to this type of data would considerably aid APEC policy makers, inform businesses and provide a more comprehensive understanding of the value and benefits for widespread adoption and use of international standards.

A systematic review of international standards and the development of a regional roadmap to guide the adoption of priority international standards by APEC will go a long way towards addressing market gaps for SMEs. Concurrently, this program of work could be supported by the implementation of a Voluntary Action Plan - that has worked so successfully in other areas of APEC, such as APEC SCSC.

It will also assist APEC in harmonising or at least converging electronic information standards. Reducing these data movement barriers or friction by standards harmonisation, simplification, and mutual recognition initiatives can facilitate market access. This in turn will help SMEs, business, policy makers and regulators to better understand points of commonality or the reasons for divergent national standards and regulatory systems and approaches.

SURVEY STATISTIC

50% of respondents believe that the absence of standards harmonisation represents a key barrier to the free flow of data across APEC

CASE STUDY

Hong Kong information, media and telecommunications consultancy

A Hong Kong-based SME operating across APEC recognises that with the efficient movement of data there are significant growth opportunities for his information, media and telecommunications consulting business. In the survey he states: “As a consultant/adviser to other companies, it is their business that would be enhanced by harmonisation of cross border data flow standards, leading in turn to greater efficiencies within each country that are using the same common standards.”

REGULATION

Governments across APEC have varying regulations relating to the movement of data across-borders. The greatest challenge facing governments on this emerging and cross-cutting policy matter relates to the unknown security, privacy and technical concerns that may exist for individuals, businesses and APEC member economies.

Data from the APEC SMEWG HOST project survey shows that more than half of the SME and industry organisation respondents to the questionnaire indicated that they were unaware of current initiatives by their respective governments or inter-governmental agencies to improve the movement of data across-borders.

Yet by integrating ISO/IEC JTC 1 standards into national regulations, APEC member economies can ensure that requirements for imports and exports are the same across the region, therefore facilitating the movement of goods, services and technologies from country to country. For example, Microsoft, as one of the world's leading cloud service providers, earlier this year announced that it had adopted the voluntary international standard for cloud privacy, ISO/IEC 27018. This standard has been developed to establish a uniform, international approach to protecting privacy for personal data stored in the cloud¹⁴. The adoption and use of standards such as ISO/IEC 27018 can be a cheaper alternative to costly regulation.

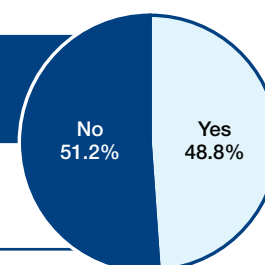
Furthermore, the Open Computing Alliance's 2014 White Paper notes: "ISO/IEC 27018 is the first international privacy standard for the cloud. This new standard incorporates controls that reflect Personally Identifiable Information (PII) considerations specifically for cloud services, and will assist a Cloud Service Provider (CSP) demonstrate that its cloud privacy policies and procedures are robust, and in line with best industry practices. These include transparency around sub-processors, the non-use of PII for advertising and healthy data retention policies that articulate transparent parameters for the return transfer and secure disposal of personal information."¹⁵

“Adopt ISO standards as national standards by all APEC economies, and incorporate such standards into appropriate laws and regulations. For example, ISO 27018 on privacy.”

—APEC SME

More than half of SMEs and industry organisations surveyed are not aware of any current government initiatives.

Survey question: *Are you familiar with any current initiatives by government or standards bodies in your economy to improve cross border data flows?*



Of the SMEs and businesses that were aware of government policy initiatives relating to cross-border data and information flows, most made representations to government through their respective industry bodies by way of formal submissions to government,

¹⁴ ISO/IEC 27018:2014 Information technology -- Security techniques -- Code of practice for protection of personally identifiable information (PII) in public clouds acting as PII processors. Readers are referred to ISO Focus for further information on this standard, see http://www.iso.org/iso/home/news_index/news_archive/news.htm?Refid=Ref1983 accessed on 11 August 2015.

¹⁵ Mudd, Michael, OCA White Paper 2014, nr 13, p1, Open Computing Alliance 2014

and by participation in policy forums and discussions. A number of SME respondents suggested that developing appropriate privacy policies through community-wide consultations could better assist with the understanding of regulations that support the movement of data and information.

SURVEY STATISTIC**46.7% of respondents said that barriers were related to regulation**

“We have an active level of interaction [with SMEs] since we are responsible for ensuring the proper compliance with the provisions of the TBT Agreement that deals with technical regulations, standards and conformity assessment procedures.”

—APEC Foreign Trade Official

There is an opportunity for governments and bodies such as APEC to create greater clarity around the issue of movement of data. Creating forums for discussion on cross-border data and information flows to discuss issues such as security and privacy concerns, technical infrastructure, standards, regulations and SME interests can assist with bridging the knowledge gap.

SURVEY STATISTIC**60% of respondents said barriers were related to lack of knowledge**

These consultations can also provide an opportunity to mitigate concerns, develop consensus-based policies that serve domestic and regional interests, build business connectivity and establish market confidence.

“Laws that prohibit all data transfer from one country to another or place restrictions on data are restrictive e.g. Financial data, that are over reaching and do not take into account technical protections that are available.”

—An APEC SME

DEVELOPING ECONOMIES

The increasing growth and use of the internet and the movement of data across APEC is undoubtedly assisting SMEs to expand their businesses. A series of recent studies undertaken demonstrate the fact that companies with a strong web-enabled infrastructure grow much faster than those companies that do not have such access. To illustrate the point, the McKinsey Global Institute (MGI) surveyed 4,800 SMEs in 13 major economies and the results found that firms with a strong web presence grew twice as fast as firms with little or no web presence¹⁶. Similarly, in the same study MGI found digitally-intensive SMEs had export revenues more than double the rate of largely offline-supported SMEs¹⁷. These findings are useful background for APEC.

“38% of total cross-border flows of goods, services, and finance from emerging economies in 2012, up from 14% in 1990”

—MGI *Global flows in a digital age*, April (2014)

This development of new digital enabled products and services, such as cloud computing solutions, provides payment and security systems which help SMEs to access new markets and customers at lower participation costs. The internet and associated platforms have transformed SMEs’ ability to be competitively positioned in the global market. APEC’s support to SMEs as a leading economic co-operation forum will have regional and global impacts. A case in point is a recent digital trade effects pilot study conducted by eBay. The study, amongst other key findings, concluded that by reducing supply chain barriers SMEs could increase e-commerce cross-border trade by as much as 60%-80%¹⁸.

The APEC HOST survey points to a digital divide within APEC. Bridging this gap requires the attention of APEC as a whole. The situation is highlighted by the United Nations Conference on Trade and Development’s (UNCTAD) 2009 report, which found that some 50% of all traded services are enabled by the technology sector, including by cross-border data and information flows¹⁹.

SMEs therefore need to be able to better understand issues concerning the access and use of data standards, be able to transmit data securely and efficiently as well as collect and store electronic information. Yet access by APEC SMEs to adequate information, infrastructure, regulation and associated business support is an on-going issue, particularly in developing economies.

One of the key challenges facing APEC’s developing countries is that developing country NSB’s have limited access to resources that are necessary for adequate representation in standards technical committees. As a result SMEs in developing countries do not have the appropriate means to engage through their NSB in international standards setting. As SMEs are the backbone of APEC member economies, the APEC SMEWG, APEC SCSC and other APEC connected groups need to work more closely to address developing countries’ standards development gaps in the ICT sector. Failure to do so will erode APEC SMEs’ ability to secure business opportunities and fully participate in the regional

16 This is McKinsey Institute’s estimate of a SME’s Internet-usage intensity based on the penetration of Internet technology used by the SME, including Web technology usage by employees, clients, and suppliers. McKinsey, “Internet Matters,” May 2011, pp.18, 22.

17 Ibid, p.3.

18 <http://reports.weforum.org/global-enabling-trade-2013/ebay/> accessed on 11 August 2015.

19 *Information Economy Report*, United Nations Conference on Trade and Development, 2009, http://unctad.org/en/docs/ier2009_en.pdf accessed on 10 September 2015.

and global economy. In addition, greater participation by SMEs in GVCs will have the benefit of giving consumers greater access to digitally supported goods and services.

The potential of data-driven innovation also supports the empowerment and promotion of women entrepreneurship, particularly in developing countries, who are involved in digitally supported products or services businesses.

“There are many in this region who need work, especially women. They could work from home, without incurring extra expenses like childcare or transportation costs.”

—Small business owner, Mexico²⁰

²⁰ <http://www.asiainternetcoalition.org/wp-content/uploads/2013/11/Trade-in-the-Digital-Age-Report.pdf> accessed on 3 September 2015.

Overcoming Barriers

Respondents to the APEC HOST survey provided a number of suggestions for overcoming barriers to data and information movement. These suggestions provide valuable insights into the actual and perceived concerns held by SMEs and other stakeholders.

The need for harmonisation of relevant data movement standards and the establishment of regulatory coherence amongst APEC members were the two most consistently recurring solutions suggested by survey respondents for overcoming existing barriers.

SURVEY STATISTIC

Amongst a broad range of issues – including tariffs, burdensome regulations, lack of standards harmonisation, access to facilities or services, high investment costs, lack of knowledge or information – standards, regulation and lack of knowledge were each selected by more than 45% of respondents as the three key obstacles to cross-border data and information flows

While the harmonisation of standards and regulatory coherence remain broad long-term objectives, a number of practical and immediately actionable undertakings were suggested by respondents including:

- The development of a web portal/dashboard to explain the standards and regulatory requirements for each APEC economy.
This would allow SMEs to more easily understand the business requirements for operating in APEC markets.
- Greater participation by SMEs in standards development forums and activities.
This would allow SMEs to express their concerns and market requirements and to ensure that SME needs are considered in the development of relevant standards.
- Regulators to support their countries' participation in the standards development process and then to consider referencing international standards in national regulations.
This would allow APEC countries to shape international standards and establish standards harmonisation across economies.
- Bilateral or Regional Free Trade Agreements (FTAs) between APEC economies should address cross-border data flow issues.
This would create a mutual understanding on standards and regulatory requirements for data movement amongst the parties. This will allow SMEs to exploit new market growth opportunities for trade and investment.

Conclusion

At the regional level, continuing work within APEC on facilitating the movement of data is crucial to the continuing ability of SMEs to participate in regional economic integration and to maximise productivity, innovation, and trade and investment opportunities. It is acknowledged that APEC's work in this area is cross-cutting and complex. The APEC HOST project demonstrates the largely untapped opportunity for SMEs to fully participate in standards-setting arrangements through bodies such as ISO/IEC JTC 1. Participation in market-driven voluntary international standards development activities is a key component to ensure that SMEs' interests, needs and perspectives are promoted throughout the standards development process. APEC's NSBs clearly have an important role to play in raising awareness, educating and working with their stakeholders, to make sure that SME needs are duly represented and promoted.

This Issues Paper endorses the importance of SMEs participating in the digital economy from a standardisation perspective. It also identifies a number of important ways and areas where APEC can focus additional attention to address market gaps, build capacity and capability and raise awareness amongst SME stakeholders.

This Issues Paper largely focuses attention on the main themes arising from the survey results relating to standardisation. In saying this, complex issues such as security, data privacy and localisation issues warrant additional substantial consideration and treatment by government and intergovernmental bodies in consultation with businesses, particularly SMEs.

There is an opportunity for governments to establish more clarity, policy and regulatory coherence around the issue of cross-border data and information flows. By creating stakeholder forums for discussion on intersecting issues such as security and privacy concerns, technical infrastructure and standards, and SMEs can assist with developing consensus-based policies that serve national and regional interests.

Engagement in data and related standards by NSBs and governments within APEC is not simply an option but a necessity for facilitating business, innovation and productivity. Greater involvement in cross-border data standardisation projects and activities will not only help bring about increased technical alignment and regulatory coherence amongst APEC member economies but also assist SMEs to more readily participate in GVCs. Moreover, increased awareness and understanding of international standards will facilitate a better shared understanding between SMEs, NSBs, industry associations, chambers of commerce and industry, regulators and governments of the business benefits and implications for Good Regulatory Practices.

The work led by APEC member economies such as the USA and China will go a long way to improving the use of digital products and services. Notwithstanding, considerable work is needed at the domestic and regional level to improve conditions for SMEs to prosper and grow. The upcoming APEC HOST workshop in November 2015 provides an opportunity for SMEs, NSBs and governments to come together in an effort to develop a framework for more efficient data flows across APEC. The APEC HOST Project and other APEC digital economy initiatives more broadly, support and encourage SMEs to take full advantage of APEC's ongoing trade and liberalisation agenda.

Bibliography

Asia Cloud Computing Association: The Impact of Data Sovereignty on Cloud Computing in Asia, 2013

Asia Internet Coalition, Trade in the Digital Age: helping small businesses think big, Asia Internet Coalition, 2013. <http://www.asiainternetcoalition.org/wp-content/uploads/2013/11/Trade-in-the-Digital-Age-Report.pdf>

Asia Pacific Economic Cooperation APEC website <http://www.apec.org>

Business Without Borders: The Importance of Cross-Border Data Transfers to Global Prosperity, United States Chamber of Commerce and Hunton & Williams, 2014

E-commerce – New Opportunities, New Barriers, A survey of e-commerce barriers in countries outside the EU, Swedish National Board of Trade, November 2012

eBay, Enabling Growth for APEC SMEs, eBay, November 2014 <http://www.ebaymainstreet.com/sites/default/files/apec-commerce-3-0-smes.pdf>

Integrating SMEs into Global Value Chains: Policy Principles and Best Practices, Issues Paper No.6, APEC Policy Support Unit, May 2014

ISO JTC1 Information Technology home page, International Organization for Standardization website http://www.iso.org/iso/jtc1_home.html

International Organization for Standardization ISO website <http://www.iso.org/iso/home.html>

Jason Lee, Commerce 3.0: Enabling ASEAN Small and Medium Enterprises, eBay, 2015

Kuner, C., “Regulation of Transborder Data Flows under Data Protection and Privacy Law: Past, Present and Future”, OECD Digital Economy Papers, No. 187, OECD Publishing, 2011 <http://dx.doi.org/10.1787/5kg0s2fk315f-en>

Manyika James, Bughin Jacques, Lund Susan, Nottebohm Olivia, Poulter David, Jauch Sebastian, and Ramaswamy Sree, Global flows in a digital age, McKinsey Global Institute, April 2014 http://www.mckinsey.com/insights/globalization/global_flows_in_a_digital_age

Matthieu Pélissié du Rausas, James Manyika, Eric Hazan, Jacques Bughin, Michael Chui, Rémi Said, The Net’s sweeping impact on growth, jobs, and prosperity, McKinsey Global Institute, May 2011

Meltzer Joshua, The Internet, Cross-Border Data Flows and International Trade, Issues in Technology Innovation, The Brookings Institution, No. 22, February 2013

Mudd Michael, OCA White Paper 2014, nr 13, p1, Open Computing Alliance, 2014

Summer Rene, The impacts of regulating cross-border data flows, Ericsson, 2013 <http://www.ericsson.com/thinkingahead/the-networked-society-blog/2013/10/22/the-impacts-of-regulating-cross-border-data-flows/>

The Economist, “Hyperconnected Organisations”, The Economist, 2015 <http://www.economistinsights.com/technology-innovation/analysis/hyperconnected-economy-phase-2>

UNCTAD, Information Economy Report, United Nations Conference on Trade and Development website <http://unctad.org/en/Pages/Publications/InformationEconomyReportSeries.aspx>

USITC, Digital Trade in the U.S. and Global Economies, Part 1, 2013

USITC, Digital Trade in the U.S. and Global Economies, Part 2, August 2014

World Economic Forum, eBay: Ramping up trade growth among smaller enterprises, World Economic Forum, 2013 <http://reports.weforum.org/global-enabling-trade-2013/ebay/>

More Information

To learn more about the project and how you can get involved, contact the authors:



Damian Fisher

Senior International Development Manager

Standards Australia

T + 61 2 9237 6098

E damian.fisher@standards.org.au

Damian Fisher is a senior member of Australia's National Standards Body, Standards Australia. He is responsible for coordinating and managing international standards work and leads the organisation's capacity building and institutional strengthening program. Mr Fisher has also led a number of projects sponsored by APEC's Sub-Committee on Standards and Conformance (SCSC) and AANZFTA Sub-Committee on Standards, Technical Regulations and Conformity Assessment Procedures (STRACAP). He is a member of ISO's Developing Countries (DEVCO) Chairs Advisory Group and the immediate past Chair of the Specialist Regional Bodies Forum. He has more than 28 years' experience in international business and is a former senior Australian trade diplomat. His postings included appointment as Consul General and Senior Trade Commissioner based in Turkey. Mr Fisher also served with the Australian Embassy in Riyadh, Kingdom of Saudi Arabia where he was accredited as Counsellor (Commercial) and Senior Trade Commissioner for Saudi Arabia, Kuwait and Bahrain. He is also a co-author of a number of publications including a book, *Export Best Practice: Commercial and Legal Aspects*, The Federation Press, Sydney. Mr Fisher is based in Sydney.



Varant Meguerditchian

Senior Manager, Stakeholder Engagement & Public Affairs

Standards Australia

T +61 2 9237 6119

E varant.meguerditchian@standards.org.au

Mr Varant Meguerditchian is a public affairs and management professional. In his role at Standards Australia, he is responsible for engaging with government and industry stakeholders to address various issues of public interest. Mr Meguerditchian has made representations to government and worked to influence and shape key policies across a number of sectors including energy, information technology, communications, health and business. He has represented the Australian government and industry stakeholder interests at public forums and ISO & IEC policy meetings in Australia, the Asia-Pacific, Europe and South America. Mr Meguerditchian has previously held positions in the Australian commercial banking industry and also served as Executive Director of ANC Australia. Mr Meguerditchian holds a Master of Management from Macquarie University and a Master of International Relations from Griffith University. He has served as an Infantryman in the Australian Army Reserve. Mr Meguerditchian is currently based in Sydney.

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