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THE EVOLVING PRIVACY LANDSCAPE:

30 YEARS AFTER THE OECD PRIVACY GUIDELINES

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FOREWORD

Thirty years ago OECD governments adopted a set of Guidelines governing the Protection of Privacy and Transborder Flows of Personal Data. Faced with twin concerns about threats to privacy from more intensive use of personal data and the risk to the global economy of restrictions on the flow of information, the OECD produced the first internationally agreed statement of the core privacy protection principles.

The Guidelines have been a remarkable success. They represent an international consensus on personal data protection in the public and private sectors. They have influenced the development of national legislation and model codes within OECD member countries, and beyond.

This report begins by recalling the development and influence of the Guidelines. It then describes a number of current trends in the processing of personal data and the privacy risks in this evolving environment. It identifies some of the challenges that today's environment brings for protecting privacy under existing approaches, and highlights a number of current initiatives and innovative approaches to privacy. Particular attention is focused on the impact of the Internet and other technologies, consistent with the issues and priorities highlighted in the 2008 Seoul Ministerial on the Future of the Internet Economy.

The report aims to take a broad view of the current landscape for privacy, with a primary focus on economic activities. It does not describe in detail the myriad of initiatives to implement the Privacy Guidelines in OECD countries and beyond.

The report was prepared with the special assistance of Barbara Bucknell from the Office of the Privacy Commissioner of Canada. It has been informed by a series of events organised by the OECD to mark the 30th anniversary of the Privacy Guidelines: www.oecd.org/sti/privacyanniversary. The Working Party on Information Security and Privacy approved the report for submission to the Committee for Information, Computer and Communications Policy, which declassified it in March 2011.

The report is published under the responsibility of the Secretary-General of the OECD.

**THE EVOLVING PRIVACY LANDSCAPE:
30 YEARS AFTER THE OECD PRIVACY GUIDELINES**

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MAIN POINTS

1. The OECD Privacy Guidelines have been a remarkable success.

The Guidelines represent the first internationally agreed-upon set of privacy principles.

They have influenced the development of national data protection legislation and model codes within the OECD member countries. The Guidelines have also influenced the development of the APEC Privacy Framework, expanding their reach beyond the OECD membership.

→ Framed in concise, technologically neutral language, the principles have proven to be adaptable to countries with varied governmental and legal structures and to changes in the social and technological environment.

2. More extensive and innovative uses of personal data are bringing increasing economic and social benefits.

Organisations have greatly benefited from the many improvements in personal data processing, as have individuals. Personal data is increasingly a core asset for modern business operations and essential to effective government administration. It has become a “currency” for the Internet economy, exchanged for access to online content and services without monetary payment.

→ The role of personal data protection principles in helping to maintain trust is integral to the continued benefits of personal data flows.

3. The evolving uses of technology and personal data raise challenges for determining the appropriate scope for the application of privacy protections.

Advances in analytics and the apparent limitations on anonymisation mean that more data than ever can be related to an individual and thus potentially fall within the scope of privacy protections.

Individuals currently play a greater role in generating and disseminating personal data – a role more akin to that of a data controller than a data subject – raising new issues regarding the impact they are having on the privacy of others and themselves. Further consideration may need to be given to their role in privacy protection frameworks.

Given the increasing complexity of interactions between certain types of technology and certain business models, it is becoming more difficult to allocate responsibilities. The traditional concept of data controller (and data processor) may not be able to encompass all the actors that may have a role to play in data protection.

→ When the scope of application is broad and the allocation of responsibilities unclear, the core privacy principles become more challenging to implement and enforce.

4. *It is increasingly difficult for individuals to understand and make choices related to the uses of their personal data.*

The uses of personal data are becoming increasingly complex, and non-transparent to individuals.

Individuals may face a lack of information, or overly detailed information about how their personal data may be used. Individuals may find it difficult to assess information risks when confronted with complex information and competing interests. Further complications may arise when privacy policies change too frequently.

Access to modify or delete personal data can also be challenging both for individuals to obtain and organisations to provide, given existing business models, and the volume and dissemination of data in the online environment.

→ Challenges related to offering individuals choices (e.g. consent) about how their data is used and how individual access is provided within a broader regime of privacy protection needs further exploration.

5. *The abundance and persistence of personal data, readily available globally, has provided benefits while at the same time increasing the privacy risks faced by individuals and organisations.*

Securing personal data has become a greater challenge. Individuals are exposed to increased potential harms including the risk of identity theft. Data breach notification has become an increasingly important element of privacy oversight.

The growing value of personal data increases the risks that data will be used in ways that neither the organisation nor the individual anticipated when the data was collected.

The combination of various methods of collecting and processing data allows for more detailed monitoring of the activities of individuals.

→ Increased attention is needed to mitigate the privacy risks to individuals posed by monitoring, unanticipated secondary usage, and data security breaches.

6. *Advances in technology and changes in organisational practices have transformed occasional transborder transfers of personal data into a continuous, multipoint global flow.*

There are variations in national and regional approaches to personal data protection, which are more noticeable when applied to global data flows.

Countries have chosen different approaches to protecting data and have expressed differing degrees of concern about barriers to cross-border data flows.

Organisations that operate globally and privacy enforcement authorities may not be certain about questions of applicable law, jurisdiction and oversight.

Organisations may find compliance with complex and sometimes conflicting privacy laws to be difficult and may not be able or willing to tailor their operations to meet the specific requirements of smaller jurisdictions.

The Guidelines have been successful in influencing the development of legislation and model codes, but less successful in encouraging approaches that seek a balance between protecting personal data and preventing barriers to transborder data flows.

→ The importance of effective, global, practical approaches to governing the collection, use and transfer of personal data has never been greater.

7. *There is interest by the global privacy community and commitment within international organisations, governments, and privacy enforcement authorities to addressing current challenges.*

Important and innovative developments since the privacy guidelines - for example, the emergence of a privacy profession, privacy by design, privacy impact assessments, and data breach notification - offer encouraging signs of a broad multi-stakeholder commitment on the part of privacy advocates, the technical community, businesses and governments to protecting privacy.

Greater efforts by privacy enforcement authorities around the world to co-operate represent an important development and a key component of a more globally effective approach to protecting privacy.

Many countries and regions are carefully examining the effectiveness of their data protection regimes, and there are movements to seek consensus on developing privacy protections, such as global privacy standards.

→ These initiatives could play a role in finding practical, effective ways to improve privacy protection and thereby foster the economic and social benefits enabled by more extensive and innovative uses of personal data.

1. THE DEVELOPMENT AND INFLUENCE OF THE OECD GUIDELINES ON THE PROTECTION OF PRIVACY AND TRANSBORDER FLOWS OF PERSONAL DATA

The 1980 OECD *Guidelines on the Protection of Privacy and Transborder Flows of Personal Data* (“OECD Guidelines”) represent a consensus of the OECD member countries on personal data handling and protection. The Guidelines were developed because of concerns about the consequences of inconsistent or competing national data protection laws that had arisen in response to new and automated means of processing information. The Guidelines emphasised that OECD countries have a common interest in protecting privacy and individual liberties. At the same time, another goal was to ensure that the spread of privacy laws should not unduly restrict transborder data flows and the economic and social benefits they bring. Faced with the twin concerns about threats to privacy from more intensive use of personal data and the risk to the global economy of restrictions on the flow of information, the OECD produced one of the flagship statements of the core privacy protection principles.

The linking of privacy to the emergence of new technologies dates back at least to the 19th century, when Samuel Warren and Louis Brandeis wrote about the impact of the portable camera on the “right to be let alone”.¹ The OECD Guidelines resulted from a number of related developments that began to emerge in the late 1960s around the introduction of first-generation, mainframe computers. Today, in the face of vastly increased computing speed and capacity, innovative products and services and the increased economic value of personal data, many jurisdictions are re-examining their approach to data protection to determine if their current practices are still up to the task of effectively protecting privacy in the face of 21st century information and communications technologies while at the same time still supporting the growth of commerce. Similarly, the purpose of this paper is to contribute to a process of assessing the continued effectiveness of the OECD Guidelines, 30 years after their adoption.

1.1 The emergence of computerised processing, concerns about privacy and national legislation

Privacy became an issue in the late 1960s because of the convergence of two trends: the postindustrial information revolution and the growing government use of personal data. The advantages of using computers to more efficiently process data were increasingly apparent yet at the same time so too were growing concerns about the possible loss of dignity or the erosion of rights that could result from the misuse of personal data.² There was recognition too of the growing awareness in certain circles of the need to empower citizens in claiming their rights.

Governments in many OECD member states responded to these concerns by creating task forces, commissions and committees to study the issue. In 1969, consultations for a law began in the Land of Hesse, Germany.³ In the United Kingdom, a Committee on Privacy chaired by the Rt. Hon. Kenneth Younger published a 350-page report in 1972. A Canadian Task Force was created “to consider rights and related values, both present and emergent, appurtenant to the individual and the issues raised by possible invasion of privacy through the collection, storage, processing and use of data contained in automated information and filing systems.” The resulting report, *Privacy and Computers*, was published in 1972. The Nordic Council, a forum for discussion among the governments of Denmark, Finland, Iceland, Norway and Sweden, began looking at data protection in 1971. A Swedish Parliamentary Commission, established in 1969, issued a report in 1972 entitled *Computers and Privacy*. In the Netherlands, the State Commission Protection of Private Life in relation to Personal Data Registrations, or “State Commission Koopmans,” was established in 1972, which reported in 1976. The French Ministry of Justice appointed the Tricot Commission on Data Processing and Freedom in 1974, following revelations about a proposal to use personal identifiers to link the personal data in a number of databases and public registers. In Australia, the

Australian Law Reform Commission (ALRC) began its work on privacy in 1976 (the report was published in 1983). The ALRC had also issued a report on unfair publication in 1979 that included privacy as a strong consideration.

In the United States, the Secretary of the Department of Health, Education and Welfare (HEW) created a Committee on Automated Personal Data Systems. The Committee's 1973 report, *Records, Computers and the Rights of Citizens*,⁴ is noteworthy because it contained the first explicit reference to "fair information practices":

Safeguards for personal privacy based on our concept of mutuality in record-keeping would require adherence by record-keeping organisations to certain fundamental principles of fair information practice.

- *There must be no personal-data record-keeping systems whose very existence is secret.*
- *There must be a way for an individual to find out what information about him is in a record and how it is used.*
- *There must be a way for an individual to prevent information about him obtained for one purpose from being used or made available for other purposes without his consent.*
- *There must be a way for an individual to correct or amend a record of identifiable information about himself.*
- *Any organisation creating, maintaining, using, or disseminating records of identifiable personal data must assure the reliability of the data for their intended use and must take reasonable precautions to prevent misuse of the data.*

Academics also began to take an interest in the privacy implications of new technologies, beginning in the late 1960s. Alan Westin's *Privacy and Freedom* is one obvious example.⁵ Westin went on to co-author *Databanks in a Free Society* with Michael Baker.⁶ Arthur Miller's *The Assault on Privacy* was subtitled, *Computers, Data Banks and Dossiers*. Paul Sieghart, a British human rights lawyer and author, published *Privacy and Computers*⁷ in 1976 and David Flaherty published a study on government data banks, *Privacy and Government Data Banks: An International Perspective*. Frits Hondius of the Council of Europe wrote *Emerging Data Protection in Europe*, the purpose of which was to "describe the dawn of a new corpus of law in Europe called 'data protection'." In Australia, the Boyer Lectures by Professor Zelman Cowan, which were broadcast by the Australian Broadcasting Commission in 1969, were captured in the book, *The Private Man*.

The concerns identified in these studies and books contributed to legislative responses in several countries. To cite a few examples, the Hesse Parliament adopted the *Data Protection Act* in September 1970. The Swedish government responded to the *Computers and Privacy* report by passing the *Data Act*, the first national data protection legislation, and creating the Data Inspection Board in 1973. In the Netherlands, legislation was proposed in 1981, leading to the *Act on Personal Data Registrations* and the creation of the data protection authority in 1988. The U.S. *Freedom of Information Act* was enacted in 1966, the *Fair Credit Reporting Act* was enacted in 1970, and the *Privacy Act* was passed in 1974. The French (Tricot) Commission led to the Law on Informatics and Freedom in 1978, and the creation of *La Commission nationale de l'informatique et des libertés* (CNIL), the French data protection agency. New Zealand set up its first Privacy Commissioner in 1976 to oversee a national law enforcement database and gave the new Human Rights Commission a broad policy remit the following year. The *Canadian Human Rights Act* of 1977 contained a set of fair information practices for the federal public sector. The Federal Republic of Germany, Norway, Denmark, Austria and Luxembourg also passed legislation before the end of the decade. As a result, more than a third of the then 24 OECD member countries had adopted national legislation by 1980.

The focus on the potential dangers to data privacy posed by the use of information and communication technologies (ICTs) to store and also process personal data had an impact on the legislation that was passed in the 1970s. Firstly, despite the numerous references to “privacy” in the studies and books that were published during the decade, and in some cases in the legislation itself, the focus was on the protection of personal data or data as a means of protecting privacy.

Secondly, there was an emphasis on automated processing of personal data. Sweden’s 1973 *Data Act* only applied to computerised files; France’s 1978 law refers to informatics in its title and the Council of Europe’s 1973 and 1974 resolutions only applied to automatic data processing. The Younger Committee report was limited to looking at computerised processing as suggested by the references to “systems” in the principle.

Most of the government reports and legislation mentioned above contained similar principles for protecting personal data. Although it did not use the term “fair information practices”, the Younger Committee introduced a minimization principle (“the amount of information collected and held should be the minimum necessary for the achievement of a specified purpose”). The Younger Committee’s report also contained a principle to the effect that “care should be taken in coding value judgements.” In 1973, the Council of Europe adopted Resolution (73) 22 on the protection of the privacy of individuals in relation to electronic data banks in the private sector.⁹ The resolution contains ten principles. The Council followed this in 1974 with a similar non-binding resolution for the public sector.

Despite these differences, a consensus in many advanced economies around a core set of principles had emerged by the mid 1970s, “on general principles which policy-makers would apply to a wide variety of personal-data systems.”¹⁰ In hindsight, it is remarkable how quickly this developed.

1.2 The approach of the OECD

The growing importance of ICTs and transborder data flows and their implications for privacy first attracted the interest of the OECD in 1969. Initially, work was undertaken by the Computer Utilisation Group, which produced a number of Informatics Studies with titles such as “Computerised Data Banks in Public Administration”, “Digital Information and the Privacy Problem”, and “Policy Issues in Data Protection and Privacy.”

In 1974, the OECD held a two-day seminar that included sessions on “The Personal Identifier and Privacy”, “Right of Citizen Access to their File” and “Rules for Transborder Data Flows.” The seminar was attended by almost 100 people, including many current and future experts and commissioners.

A Synthesis Report was prepared by the OECD Secretariat in 1976. The Report succinctly stated the policy problem that the seminar was attempting to address and offered some possible solutions:

Innovations in modern information technology, especially computers and telecommunications, bring new dimensions to traditional methods of record-keeping. They have also sharpened public awareness of the human value, “privacy”, which may face major changes as the use of automated information and transmission systems expands. What is at stake is the societal control of modern information technology, and while the past decade has seen a “literature of alarm”, the 1970s will be dedicated to the development of “social software” in the form of laws, regulations, codes of ethics, etc., necessary to control information technology and ensure that its development will be, on balance, of a positive dimension to humanity.¹¹

This seminar was followed in 1977 by a larger meeting on “Transborder Data Flows and the Protection of Privacy”, attended by approximately 300 people from member countries, the private sector

and inter-governmental organisations. At the 1977 symposium, the economic value and national interest of transborder data flows was highlighted in a comment made by Louis Joinet of France, at the time, the President of the *Commission nationale de l'informatique et des Libertés*, who was later instrumental in crafting the OECD Guidelines:

Information is power, and economic information is economic power. Information has an economic value and the ability to store and process certain types of data may well give one country political and technological advantage over other countries. This in turn may lead to a loss of national sovereignty through supranational data flows.¹²

Following the symposium, an Expert Group chaired by Honourable Justice Michael Kirby of Australia, was created to begin work on guidelines. The creation of the Expert Group and the decision to work on guidelines were in response to the concerns that had surfaced over the previous decade about the growing use of personal data and the increasing reliance on computerised processing that prompted several countries to pass legislation. Given its mandate to foster economic growth and contribute to the expansion of world trade, the OECD was also concerned about the possibility that national laws would create barriers to the free flow of information that would impede growth.

The hope was that by reaching agreement on a broad set of fundamental principles to protect personal data that could be adopted by the member countries and other nations, there would be less pressure to regulate or attempt to control international data flows. The emphasis on trying to ensure that the measures being introduced to protect personal data would not result in restrictions on transborder data flows runs through the Guidelines.

Although there was a broad consensus about the principles and the need to take action, reaching agreement was not easy. According to Justice Kirby, “it is something of a miracle that the OECD Guidelines emerged at all.”¹³ One of the key challenges facing the Expert Group is described in the Explanatory Memorandum:

...there is an inherent conflict between the protection and the free transborder flow of personal data. Emphasis may be placed on one or the other, and interests in privacy protection may be difficult to distinguish from other interests relating to trade, culture, national sovereignty, and so forth.

The Explanatory Memorandum also suggests that there was debate around how the Guidelines should address other “key issues” such as sensitive data, automated data processing, the application to legal persons (corporations, associations), oversight and sanctions, retention periods and other implementation matters, applicable law and exceptions.

The Guidelines were a carefully crafted compromise that reflects the differing views of the members of the Expert Group on these and other potentially contentious issues. This spirit of compromise is reflected in many parts of the package of documents that collectively form the Guidelines, beginning in the Council Recommendation that refers to “reconciling fundamental but competing values such as privacy and the free flow of information.”

Although the Guidelines’ eight basic principles do not refer to sensitive data or to automated processing, the Scope section suggests that “different protective measures” can be applied based on the context or the sensitivity of the personal data, and recognises that some member countries may choose to limit the application of the Guidelines to the automatic processing of personal data.

**Box 1: Basic Principles of National Application
(OECD privacy guidelines, part 2)**

Collection Limitation Principle

There should be limits to the collection of personal data and any such data should be obtained by lawful and fair means and, where appropriate, with the knowledge or consent of the data subject.

Data Quality Principle

Personal data should be relevant to the purposes for which they are to be used, and, to the extent necessary for those purposes, should be accurate, complete and kept up-to-date.

Purpose Specification Principle

The purposes for which personal data are collected should be specified not later than at the time of data collection and the subsequent use limited to the fulfilment of those purposes or such others as are not incompatible with those purposes and as are specified on each occasion of change of purpose.

Use Limitation Principle

Personal data should not be disclosed, made available or otherwise used for purposes other than those specified in accordance with Paragraph 9 except:

- a)* with the consent of the data subject; or
- b)* by the authority of law.

Security Safeguards Principle

Personal data should be protected by reasonable security safeguards against such risks as loss or unauthorised access, destruction, use, modification or disclosure of data.

Openness Principle

There should be a general policy of openness about developments, practices and policies with respect to personal data. Means should be readily available of establishing the existence and nature of personal data, and the main purposes of their use, as well as the identity and usual residence of the data controller.

Individual Participation Principle

An individual should have the right:

- a)* to obtain from a data controller, or otherwise, confirmation of whether or not the data controller has data relating to him;
- b)* to have communicated to him, data relating to him
 - 1. within a reasonable time;
 - 2. at a charge, if any, that is not excessive;
 - 3. in a reasonable manner; and
 - 4. in a form that is readily intelligible to him;
- c)* to be given reasons if a request made under subparagraphs (a) and (b) is denied, and to be able to challenge such denial; and
- d)* to challenge data relating to him and, if the challenge is successful to have the data erased, rectified, completed or amended.

Accountability Principle

A data controller should be accountable for complying with measures which give effect to the principles stated above.

The Guidelines were adopted by the OECD Council on 23 September 1980. This was the same month that the Council of Europe's Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data (Convention 108) was adopted, although the Convention was not opened for ratification until 1981. Justice Kirby has suggested that the OECD Expert Group was able to draw on the work of the Council of Europe, the Nordic Council, as well as the contributions of those member countries that had existing privacy legislation. Although Convention 108 differs from the OECD Guidelines in a number of important respects (*e.g.* its binding character, treatment of sensitive data, and application to automated processing) there is substantial consistency between the core principles of the OECD Guidelines and Convention 108.

1.3 The influence of the Guidelines

The Guidelines were the first internationally agreed upon statement of core information privacy principles that reflected the diverse views and perspectives of countries around the world.

The eight basic principles are concise, technologically neutral, non-binding, and written using commonly understood language. This has made them remarkably adaptable to the varying government and legal structures of the implementing countries and the changing social and technological environment, and has contributed to their enduring influence and importance. The Guidelines reflect an arrangement whereby all OECD members should implement privacy protections consistent with those outlined in the Guidelines (which should be regarded as a minimum) and not restrict data movement to other countries that are abiding by the Guidelines. There are, however, exceptions to the presumption of free flow if the other member country does not substantially observe the Guidelines or if the re-export of data would circumvent domestic legislation. Restrictions may also be imposed if there is no equivalent protection for sensitive information.

**Box 2: Basic Principles Of International Application: Free Flow And Legitimate Restrictions
(OECD Privacy Guidelines, Part 3)**

Member countries should take into consideration the implications for other member countries of domestic processing and re-export of personal data.

Member countries should take all reasonable and appropriate steps to ensure that transborder flows of personal data, including transit through a member country, are uninterrupted and secure.

A member country should refrain from restricting transborder flows of personal data between itself and another member country except where the latter does not yet substantially observe these Guidelines or where the re-export of such data would circumvent its domestic privacy legislation. A member country may also impose restrictions in respect of certain categories of personal data for which its domestic privacy legislation includes specific regulations in view of the nature of those data and for which the other member country provides no equivalent protection.

Member countries should avoid developing laws, policies and practices in the name of the protection of privacy and individual liberties, which would create obstacles to transborder flows of personal data that would exceed requirements for such protection.

The Guidelines call for member country implementation through a variety of methods, and to ensure that there is no unfair discrimination. The response has included legislation, self-regulation, and

enforcement measures that provide a means for individuals to exercise rights, and sanctions and remedies for compliance failures.

Legislative approaches

The Guidelines have been particularly influential in countries that had not passed legislation by 1980. The Australian Privacy Act of 1988 contains 11 Information Privacy Principles, based directly on the Guidelines. When the Act was amended in 2001 to cover the private sector, ten National Privacy Principles were added, which also include principles covering transborder data flows, anonymity, and identifiers. Following a recent review by the Australian Law Reform Commission (ALRC), the Australian government has agreed with the ALRC's recommendation to create a single set of principles.¹⁴

The New Zealand *Privacy Act*, passed in 1993, contains 12 principles. The first four principles all relate to collection, elaborating on the OECD's Collection Limitation and Purpose Specification Principles. The New Zealand Act adds a principle on unique identifiers that is not found in the Guidelines. The explicit reference to the OECD Guidelines in a 2010 amendment to the New Zealand Act is a testament to the Guidelines' enduring influence.¹⁵

Canada's private sector legislation, the *Personal Information Protection and Electronic Documents Act* (PIPEDA), which came into force in January 2001, requires organisations to comply with ten principles set out in a Model Code, which was incorporated directly into the Act. This Model Code, the *Model Code for the Protection of Personal Information (CAN/CSA-Q830-96)*, was developed by a committee made up of private sector, government, trade union and civil society representatives working under the auspices of the Canadian Standards Association. The committee used the OECD Guidelines as a starting point. In addition to moving the Accountability Principle to the beginning, the model code created a separate consent principle and added a challenging compliance principle, giving individuals the right to challenge an organisation's compliance with the principles.

In 2003, Japan's *Act on the Protection of Personal Information* was passed and came fully into force on 1 April 2005. This law applies to the collection, use and disclosure of personal data in private businesses that process the personal data of more than 5 000 individuals, and incorporates the OECD privacy principles. With overall responsibility for the Act in the Consumer Affairs Agency, Japan's various ministries develop guidelines (40 guidelines covering 27 sectors) to assist organisations in implementing the legislation. At the same time, other laws were enacted that cover aspects of the personal data protection practices of government organisations.

Korea's *Act on the Promotion of Information and Communications Network Utilization and Data Protection Act* came into effect in 2001. Generally following the privacy principles laid out in the OECD Guidelines, the law initially applied only to providers of information and communications networks. The Act was broadened in 2009 to include 14 additional types of businesses. The Act contains provisions that require the government to develop policies that promote the use of security measures, protect personal data, and protect youth in the information and communication networks. Transfers of personal data as a result of a merger or change of ownership are also covered under this law.¹⁶

In 2010, Mexico became the latest OECD country to implement the Guidelines by means of legislation.¹⁷ Also in 2010, Turkey amended its Constitution to give individuals additional rights related to the protection of their personal data, addressing issues of consent, use limitation, access and correction.

In terms of transborder data flows, some of these countries enacted privacy legislation that presumes the free flow of data, making any restrictions an exception (for example, New Zealand, Australia and Canada), while others enacted some form of restriction, with exceptions to enable the free flow of data

across borders (for example, Korea and Japan, which prohibit transfers unless consent is present). Those European nations that are OECD member countries as well as member states of the European Union have enacted legislation that is in keeping with the European Union Directive 95/46/EC (the “EU Directive”), which is discussed below.

Sector-specific legislation in areas such as health and financial information has been adopted in many countries. The *Telecommunications Act 1997* in Australia gives the Privacy Commissioner responsibility for monitoring compliance over the part of the law that deals with the privacy of personal information held by carriers, carriage service providers and others. The United States has numerous sector-specific laws that protect privacy, for example in the areas of financial services, health care, and credit reporting. In Canada, several provinces have passed personal health information legislation. These laws form part of the overarching national privacy regime, which establishes a set of substantially similar privacy rules across all spheres of activity.

Some countries have adapted general consumer protection legislation to protect personal data. In the United States, for example, the Federal Trade Commission and the Attorneys General of individual states enforce laws that prohibit unfair and deceptive trade practices in cases involving privacy harms and data security breaches.

Freedom of information legislation in many OECD countries has a data protection component by providing, for example, another means for individuals to access information about themselves held by the government. Certain countries also included particular components of the OECD principles in other types of legislation.¹⁸

Self-regulation

In addition to encouraging the adoption of appropriate legislation, the Guidelines recommend that member countries encourage and support self-regulation. Following the adoption of the Guidelines, the United States Department of Commerce sent letters to 750 corporations urging them to adopt the Guidelines. In Japan, the government has undertaken the role of certifying a number of “Authorized Personal Information Organizations” that advise businesses and resolve privacy disputes.¹⁹ The Guidelines have served as a basis for numerous private sector privacy policies, self-regulatory policies and model codes, and some individual companies and trade associations have endorsed the Guidelines.

Enforcement

Nearly all OECD countries have established authorities for enforcing data protection laws. The 2006 *OECD Report on the Cross-Border Enforcement of Privacy Laws* describes the privacy enforcement authorities for OECD countries, their commonalities and differences, as well as their challenges in addressing cross-border issues²⁰. Generally speaking, enforcement authorities are a single commissioner, with certain duties to investigate complaints, with some supervising the data processing activities of data controllers. In some countries, the commissions are composed of a body of commissioners. In Japan and Korea, privacy oversight rests with groups of officials in government departments. In France, the authority is supervised by 17 commissioners, 12 of whom are elected or designated by the assemblies or courts they belong to. Many countries also have regional enforcement authorities, such as Australia, Canada, Germany, and the United States. In recent years, there has also been an increased emphasis on enforcement powers, for example, in the United Kingdom. Many of the laws that were passed initially provided oversight bodies with limited powers. Many data protection authorities may go to Court for enforcement, and individuals also may seek redress through the courts for any misuse of personal data²¹.

Other international instruments

Although the influence of the Guidelines on the EU Directive is less clear, both instruments share, along with Convention 108, many of the same basic principles. The EU Directive developed rules to harmonise data protection within the European Union and to ensure that the standard of privacy protection in Europe would not be weakened by the transfer of data from Europe to other countries.²² The Directive required protections, additional to those included in the Guidelines, concerning the transfer of personal data outside of the European Union. Binding on EEA member states, the Directive has also been highly influential in the development of privacy legislation outside of Europe.

The OECD's Guidelines were instrumental in the development of the Asia-Pacific Economic Cooperation (APEC) Privacy Framework. APEC is a multi-national organisation with a mandate to encourage economic growth, co-operation, trade and investment in the Asia-Pacific region. Seven of the 21 APEC economies are also OECD members. Work on the Framework began in 2003, and it was endorsed by the APEC Ministers in November 2004. The Framework contains nine Information Privacy Principles, including one on preventing harm, and specifically references the OECD Guidelines. In addition to the similarity between the APEC and OECD principles, the APEC Framework is also a non-binding instrument and is intended to encourage the development of appropriate information privacy protections and ensure the free flow of information in the Asia Pacific region.²³

The United Nations also has Guidelines Concerning Computerized Personal Data Files, adopted on 14 December 1990. These guidelines contain ten principles for inclusion in national legislation. The UN Guidelines are largely rooted in human rights concerns,²⁴ although there is a principle concerning transborder data flows.

Influence on other OECD work

The Guidelines have served as a basis for much of the privacy work at the OECD that followed, such as the development of the OECD Privacy Statement Generator and the Radio Frequency Identification Policy Guidance document. Privacy Online: OECD Guidance on Policy and Practice is a collection of the instruments that serve as the foundation for privacy protection at the global level, namely, the 1980 OECD Privacy Guidelines, the 1985 Declaration on Transborder Data Flows and the 1998 Ministerial Declaration on the Protection of Privacy on Global Networks. In 2006, the OECD released a Report on the Cross-border Enforcement of Privacy Laws, and a year later, the OECD Council adopted a new Recommendation that sets out a framework for co-operation in the enforcement of privacy laws. That Recommendation implements in considerable detail the provision in the Privacy Guidelines addressing mutual assistance.²⁵

The OECD Guidelines have also influenced consumer protection work within the OECD, in recognition of the connection between privacy and consumer protection. For example, the OECD's 1999 *Guidelines for Consumer Protection in the Context of Electronic Commerce* ("E-commerce Guidelines") specifically incorporate the Privacy Guidelines and state that "Business-to-consumer electronic commerce should be conducted in accordance with the recognised privacy principles set out in the OECD Guidelines Governing the Protection of Privacy and Transborder Flow of Personal Data (1980)".²⁶ In addition, privacy issues are discussed throughout the report "Empowering E-consumers, Strengthening Consumer Protection in the Internet Economy,"²⁷ that served as the basis for the December 2009 conference celebrating the 10th anniversary of the E-commerce Guidelines.

2. CURRENT TRENDS IN THE PROCESSING OF PERSONAL DATA

In considering current trends in the development of technology and growth of transborder data flows, it may be useful to begin by reviewing what the Explanatory Memorandum stated about the issues related to automatic data processing in 1980:

*Among the reasons for such widespread concern are the ubiquitous use of computers for the processing of personal data, vastly expanded possibilities of storing, comparing, linking, selecting and accessing personal data, and the combination of computers and telecommunications technology which may place personal data simultaneously at the disposal of thousands of users at geographically dispersed locations and enables the pooling of data and the creation of complex national and international data networks.*²⁸

In the 30 years since the Guidelines were adopted, those possibilities have become reality. There have been dramatic changes in the volume and uses of personal data, triggered in part by improvements in the ability to collect, store, process, aggregate, link, analyse, and transfer vast quantities of data. Advances in computing power have combined with easy access to fixed and mobile devices globally connected through the Internet to transform the role of personal data in the economy and society. The shift from analogue to digital technology across communications and entertainment media has also led to much greater capacity to store and share personal data, notably pictures, sound, film, and video images.

Personal data is increasingly a core asset for modern business operations and is essential to effective government administration, a factor that suggests that the trends and innovation described below will continue.

2.1 Technological developments

Communications networks

There has been a tremendous development in communications networks since the era when the Guidelines were adopted. First and foremost has been the widespread adoption of the Internet. Satellite, cable and fibre-optic transmission lines have increased access as well as driven data transfer capacity, and transmission technologies have increased our ability to take advantage of this enhanced delivery capacity. New devices, greater interoperability and a tremendous growth in wireless technologies have also contributed to this increased rate of data transfer.

Fixed and mobile computing devices

Personal computers were not widely available in 1980. In the ensuing 30 years, there has been a dramatic rise in the number of personal computers in use by individuals at home and in the workplace. In 2008, the percentage of all households in OECD member countries that had access to a computer at home (including personal computers, portable, and handheld) ranged from approximately 12 to 92%, with 75% or more of households in 15 countries surveyed having computer access.²⁹

More recently, mobile computing devices – including “smart” phones – have emerged. Powerful but portable, these devices are a transformative technology, combining geolocation data and Internet connectivity to support a broad new range of services and applications, many of which rely on (or involve) the collection and use of personal information to generate revenue. The mobile market has skyrocketed, with the total number of mobile subscriptions in OECD countries at 1.14 billion in 2007.³⁰ Game consoles

and portable gaming devices are other, more recent ways of accessing the Internet that are becoming popular.³¹

What these developments have meant is that there is increasingly easy access to the Internet, leading to a greater collection and use of personal data at a distance and across borders. In 2008, the percentage of all households with access to the Internet in France, the United Kingdom, and Sweden, to name three member countries, was 62.3%, 71.1%, and 84.4%, respectively.³² By September 2009, the number of Internet users worldwide reached 1.7 billion. Within the OECD, the United States had 230 million internet users, Japan (100 million), Germany (54 million) and the United Kingdom (47 million).³³

In addition to increased Internet access, most mobile devices also offer other tools that may involve capturing images, sound and location data. The potential for capturing and distributing images and tracking the location and movements of individuals, often without them being aware, has grown significantly over the past thirty years.

Storage, analytics, sensor systems and location data

In the past, the cost of storing data was a disincentive for keeping information that was no longer, or unlikely to be, needed. Times have changed. Storage costs for digital information are decreasing to the point where data can generally be kept for long periods if not indefinitely. The volume of personal data maintained by organisations and individuals is expanding significantly. Storage practices are evolving: increasingly, organisations and individuals are using third-party data storage services that may be located outside their country. The capacity to tap into this resource has grown, and new business models are providing a good return on investment. Moore's Law, which holds that processing power doubles about every 18 months, especially relative to cost or size, has largely held true over the years. Data processing tools have become increasingly powerful, sophisticated, ubiquitous, and inexpensive, making information easily searchable, linkable and traceable for many stakeholders, not just government and large corporations.

The development and use of algorithms and analytics has made large data sets more accessible and capable of being linked, which can result in increased and new uses of the data, thereby making data more valuable. The remarkable pace of development and evolution of technologies and business models make it less easy to accurately describe potential future uses of information at the time of collection. This has resulted in a desire to keep personal data for an as-yet undefined, later purpose and reflects the intrinsic value of personal data to both business and governments. Search engines, which allow for easy, global searches of any personal data made public, make data retrieval much easier for Internet users. Growing use of linked data sources and contextual semantic technologies allow for greater and more sophisticated automation in the discovery and aggregation of personal data. Automated decision-making through data mining and rule engines is increasingly possible in a variety of contexts. Moreover, searches are no longer restricted to text and numbers: facial recognition applications now allow users to identify individuals in images online with growing accuracy. The phenomenon of "big data", namely, the vast quantities of data that can be stored, linked, and analysed, brings with it the possibility of finding information, trends, insights that were not previously obvious or capable of being ascertained. This may hold great economic and social value, but there can be privacy implications.

Adding more data to the mix are sensor networks. Wireless sensor and actuator networks are networks of nodes that sense and potentially also interact with their environment. They communicate the information through wireless links 'enabling interaction between people or computers and the surrounding environment.'³⁴ These networks are being developed in areas such as health care, environment, transportation systems or in the development of energy control systems,³⁵ such as smart meters. They offer convenience and cost-savings to citizens, industry and governments. At the same time, they also have

privacy implications depending on the use of the data collected and the security of the wireless transmission of the data, including the risk of unauthorized third-party interception.

Radio Frequency Identification (RFID) “enables wireless data collection by readers from electronic tags attached to or embedded in objects, for identification and other purposes. RFID systems involve software, network and database components that enable information to flow from tags to the organisation’s information infrastructure where it is processed and stored.”³⁶ Use of RFID ranges from transportation to government identification and passports to retail purposes, and has the potential to improve business processes and performance by allowing for better tracking of goods as they move through the supply chain. Individuals may not always be aware of RFID devices that are embedded in products they buy, for example. Tags may store personal data, and depending on the strength of the reader and the types of protections applied to the data, may be readable, which, depending on the application and configuration, may expose personal data to others.

Mobile devices, whether through the GPS installed in the device or through the use of sophisticated software on the devices (or both), can supply valuable information about an individual’s whereabouts and movements, allowing for individualised and tailored services, and targeted marketing. If data from various sources such as from mobile devices, RFID-enabled transportation cards, smart passes for highways, video surveillance cameras and other sources of location data is combined, a comprehensive recording of an individual’s location over time could be created. The benefits to individuals, for example, of being able to access a global positioning system on a device are, for some, appealing. At the same time, individuals’ whereabouts and habits could become increasingly available. This may have significant benefits from a safety perspective; it also has significant privacy implications if conclusions are drawn about their preferences, activities, or associations, which may in turn lead to decisions being made about them, without their knowledge or agreement.

The human body as information

Advances in genetic technology have important implications for the health of individuals, helping researchers better understand, prevent and treat various diseases. Genetic testing to assess health risks or to determine biological relationships raises issues that affect not only an individual’s privacy but also raise the issue of ‘group privacy’, as our genetic makeup is shared by other members of our family and community. At the same time the indelible nature of genetic information and its potential implications for discriminatory treatment make it particularly sensitive.

Commonly viewed as a means of identification and authentication, biometrical information is beginning to be collected and used in a greater variety of contexts – from voice recognition systems for allowing employees to access business applications³⁷ to digital fingerprinting to pay for lunch at an elementary school.³⁸ As technology advances, the use of additional human characteristics as information will continue to pose challenges to notions of privacy and dignity. The reliability of biometric information and systems has improved, and biometrics are generally considered strong and valuable to authentication systems. The question of whether biometrics invades privacy or protects it, or both, as well as the appropriateness of relying on biometrics to resolve problems or make decisions about individuals, will be issues that will need to be considered as biometric technologies evolve.

2.2. Global data flows

In the 1970s, transborder transfers of computerised data, including personal data, became more common. Airline and ferry boat reservation systems, co-ordination between tax authorities, money transfers, payroll processing, circulation of periodicals, mail orders, credit cards, insurance transactions, and hotel bookings are a few examples of the types of transborder data transfers from that era. The early

OECD discussions of transborder data transmissions suggested that their scope and volume were rapidly growing, but there was little systematic research regarding such transfers³⁹.

Although better data on global data flows is still needed, it has nevertheless become clear that the situation is markedly different today than in the late 1970s. Data transfers have become data flows, and data can now be accessed from any location. Recent technological developments have radically altered current data flows. In examining international data transfers that occur today, three main changes can be noted: change in scale, change in processing and a change in management.⁴⁰ The effect of these changes on the practices of organisations and individuals is discussed further in sections 2.3 and 2.4.

The role of the individual in these flows has also evolved. Whereas in the past, data transfers tended to be business-to-business or government-to-government, changes in technology and practices have increased the scale of those transactions, and have fostered new business-to-consumer, government-to-consumer, and even consumer-to-consumer relationships. Individuals going about their day-to-day activities online (for example, using search engines, chatting with friends, doing their banking or making purchases) may routinely, and often unknowingly, generate transborder data flows. Organisations offer storage and processing services at a distance to individuals, migrating e-mail, pictures, videos, and documents away from the personal computer and to third-party servers. This allows individuals to have convenient access anywhere in the world where there is Internet access. Some individuals may not have a clear idea of where data is stored beyond their computer. Some of the challenges of disparate data locations are further explored in section 4.3.

2.3 Changes in organisational practices

New technological capabilities and other innovations have brought about changes in how organisations operate, helping them to increase their efficiency, improve user convenience, and introduce new products. The ability to engage other parties, in other parts of the world, in the delivery of a product or service can make an organisation more flexible and efficient. Practices vary from storing data in different jurisdictions via the “cloud” to outsourcing certain activities to organisations around the world.⁴¹ New technologies have also fostered the creation of different kinds of activities and new kinds of data. For some organisations, the very use of personal data – whether for sale to third parties, advertising, or for tailoring their own services – is a core element of their business model.

Changing business models

With new technologies have come new business models. Today, data transmissions “occur as part of a networked series of processes made to deliver a business result,” in contrast with data transfers that in the past were limited, finalised in advance, involving centralised databases, and occurring at a predictable moment.⁴² Electronic international data transfers in areas such as human resources, financial services, education, e-commerce, public safety, and health research are now an integral part of the global economy.

The provision of computing resources at a distance, for example, over the Internet, allows organisations and individuals to access services remotely although their data may be stored anywhere in the world. Data transfers are nearly instantaneous, virtually cost-free, and can occur with the click of a button, moving data quickly and easily around the globe. As a result, organisations can increasingly determine that certain processes or parts of processes can be handled externally. Indeed, ICTs enable organisations to take advantage of assistance and expertise in multiple locations around the world, thereby meeting customer expectations of improved (and near-instant) service and meeting management demands for increased productivity. An example of this is the “follow the sun” model, which is often used for help desk operations; it ensures that service can be provided to customers at any time of the day, wherever they are located.

The overall result is that organisations have greater flexibility, reduced costs, greater storage capabilities, more mobility, and physical security.⁴³ Such an approach is not just available to large, multinational organisations. Increasingly, small and medium-sized organisations as well as individuals, are able to take advantage of these global services. The other result, from a personal data protection perspective, is that global data flows are often handled through complex arrangements involving a network of data controllers (namely, those who keep, control, or use personal data) and subcontractors and service providers operating globally.

New business models built on personal data are on the rise. Technology has enabled individuals to share personal data more easily (and readily) and organisations that provide platforms for user-generated content, typically at no charge, seek ways to generate revenue, often using personal data to do so. Even the individual posting such content can derive revenue from his or her postings. The rise of targeted or behavioural advertising – the tracking of an individual’s activities online, over time, in order to deliver advertising that is targeted to the individual’s interests – reflects the need for organisations to find ways to support their businesses and/or their ability to offer services to individuals without direct charge. In 2008, online advertising was worth more than USD 55 billion worldwide, or 10% of global advertising revenue.⁴⁴ Falling computer costs, as well as falling processing costs, increased processing speed and capacity, combined with increasingly sophisticated aggregation and analytical tools also allow organisations to extract greater value from data. Profiling, behavioural targeting, and audience segmentation can occur on a much larger and more advanced scale. There may be other uses for the data, besides advertising, that have not yet been fully realised. For example, there has been recent growth in aggregating and analysing personal data to report on natural disasters and to predict health risks. The extent to which these uses rely on information about identifiable individuals and the extent to which their privacy is at risk continue to be a matter of debate (see section 4.1).

Changes in the public sector

Public sector bodies are taking advantage of the technological changes to accomplish their mandates or improve their ability to deliver public services through more effective processing of personal data. Citizens increasingly look to the Internet to obtain information about government services and operations.⁴⁵ The public sector is also beginning to change how it uses the Internet to inform and engage the public and in so doing, has the potential to collect personal data via this medium. Some governments are using social media to engage the public. For example, a number of privacy enforcement authorities and government agencies maintain a presence on popular sites like Facebook, use Twitter, seek input into public policy, and they blog.⁴⁶

More generally, there is increasing concern in some quarters that personal data collected in one context may be used in other contexts. Information collected by the private sector for a business purpose may be requested or obtained through compulsory processes provided certain burdens are met by the public sector (if permitted by law), or the private sector may be required by the public sector to collect and retain personal data for public policy purposes, such as revenue collection, law enforcement, public safety, public interest, and national security. Such data sharing occurs across a range of economic and social activities that includes hospitality, communications, health, retail, entertainment and financial services. This continues to be an area of considerable debate as the public sector seeks information collected by the private sector in the conduct of business.

2.4 Changes in individuals’ practices

With increased connectivity of individuals to the Internet, more people are conducting business transactions online, including shopping, banking, and travel arrangements. In OECD countries, the number of adult consumers purchasing goods and services over the Internet is rising, from an average of 26.9% in

2004 to 35% in 2008.⁴⁷ In terms of goods, a Nielsen survey noted that, in 2007, the most popular purchases over the Internet worldwide were books, clothing, videos, DVDs, games, airline tickets and electronic equipment.⁴⁸ In the United States, by the third quarter of 2009, 3.6% of all retail commerce was done online.⁴⁹ In making these transactions, increased amounts of personal data are being shared online with organisations.

However, it is another, more recent change that is having a very significant effect on privacy and one which was not foreseen when the OECD Guidelines were developed and adopted. The development of simple yet powerful applications for individuals to create and share information – often personal data about themselves or their friends and family – is a key aspect of the “Web 2.0” phenomenon.

Internet users worldwide are using new tools and services and changing their behaviour online. Personal data is often volunteered by individuals, rather than directly requested and collected by organisations. Large numbers of individuals are now blogging, posting pictures and videos online, conducting business transactions among themselves, and interacting with large groups of friends or the public through social networking sites. According to the photograph and video sharing web site, Flickr, four billion photographs had been posted to the site as of October 2009.⁵⁰ Facebook states that it has approximately 500 million users, with 50% of its active users logging on in any given day.⁵¹ With the move from fixed-lines to mobile phones to smart phones, individuals are increasingly connected all the time and taking advantage of expanding opportunities to convey their location and related data to other individuals and third parties. And individuals are not only posting personal data about themselves; they are also disseminating information about others (sometimes without the other person’s consent). This behaviour may challenge assumptions on which some privacy concepts, such as that of data controller, are predicated (for example, that only organisations or governments engage in personal data sharing). This is discussed further in section 4.1.

Young people are active participants in the trend of posting data about themselves and others. Some suggest that there has been a shift in attitudes towards self-disclosure, particularly among “digital natives” (those born after the Internet became a phenomenon), who may be more likely to live their personal lives online, while others contend that young people do care about privacy. Behaviours are likely to be influenced in part by the types of platforms and settings made available for social networking and other new media. While ideas about privacy may be changing, there are many examples of “consumer backlash” when companies are perceived to have pushed too far. Media stories concerning online privacy abound. Privacy clearly remains a concern for many individuals, businesses and governments; whether there is any substantial change in attitudes towards privacy is an area that needs further exploration.

Although individuals are more active participants in personal data flows, many users may not fully appreciate the way their information is processed and the associated privacy implications. Research in the field of behavioural economics, which builds on research into decision-making, may provide worthwhile insight into how individuals make choices in relation to disclosing data and protecting privacy. Difficulties in selecting from a large array of options, a growing inability to calculate and compare the risks and benefits, and the tendency to focus on more immediate effects contribute to an environment in which individuals generally concerned about their privacy may not always act in ways to protect it.⁵² The challenges that these tendencies present to traditional approaches to privacy protection are explored further in section 4.2.

Some individuals have, however, adopted various strategies to manage their online identities or to protect their privacy. Some use multiple identities on the Internet, some of which are self-created, while others are provided to them. Individuals may also use a complex mix of interrelated “partial” identities with varying levels of accurate personal data. It is possible that decisions about individuals’ identity could be made based on misinformation. Depending on the use of this data, the consequences for the individual

may range from the serious (job loss, for example) to less consequential (less-than-accurate targeted advertising). The implications for organisations are that a potentially valuable employee was not hired or advertising money was not well spent.

The social nature of the Internet and related networking technologies is raising interesting issues. This is new territory for society. The ‘mediated public’ space of social networking services has certain characteristics that make it different from how we have communicated with others in the past: namely, the persistence, searchability, replicability of data and the invisibility of the audience on the web.⁵³ The opportunities from tapping into such data-rich resources are enormous; the consequences of this mix of public and private space may continue to prove challenging for individuals, organisations and data protection authorities.

3. PRIVACY RISKS IN THE EVOLVING ENVIRONMENT

The dramatic opportunities enabled by changes in technologies and global flows have also raised new challenges and concerns for individuals, organisations, and society with respect to the protection of privacy. There is a general perception that certain risks associated with privacy have increased as a result of the shift in scale and volume of personal data flows and the ability to store data indefinitely. These changes, along with the evolving role of individuals and the increasing economic value of personal data, give rise to concerns related to the security of personal data, unanticipated uses, monitoring and trust. The result is a privacy environment that is challenging for organisations and individuals to navigate.

3.1 Security

Given its economic value, organisations often retain large amounts of personal data for various purposes. In recent years, high-profile “data breaches” have shone a light on the challenges of safeguarding personal data. Personal data is valuable not only to governments, legitimate organisations, and individuals; it is valuable to criminal elements as well. The consequences for individuals from the misuse of their personal data, whether accidentally lost, leaked or purposefully stolen, are significant. As a result of this environment, the security of personal data has become an issue of concern to governments, businesses and citizens.

Internal factors

Generally speaking, a “data breach” is a loss, unauthorised access to or disclosure of personal data as a result of a failure of the organisation to effectively safeguard the data. Organisations have long been collecting personal data in one form or another for various purposes. To some degree, personal data has always been at risk, regardless of the form in which it is retained. Privacy breaches involving paper records, for example, continue to occur. However, the sheer volume of personal data being transferred over public networks and retained by organisations has changed the risk profile, potentially exposing larger quantities of data in a single breach.

Data breaches are frequently the result of internal factors, such as errors or deliberate malicious activity on the part of employees,⁵⁴ as well as errors or malicious activity on the part of third parties that are involved in processing personal data on behalf of organisations. Twenty-five million child benefit records held on an electronic device that disappeared as a result of a series of employee errors is but one

example of a type of breach that is increasingly familiar.⁵⁵ A lack of employee training and awareness, inadequate processes and security rules around personal data and equipment, over-collection of data and undefined retention periods, and/or a lack of adequate oversight are some of the factors that often lead to breaches.

The potential harm, including the risk of identity theft, to individuals from the misuse of their personal data is significant. The potential harm to organisations from breaches is also considerable. There is a substantial financial cost in recovering from the breach and fixing problems within the organisation to prevent a recurrence. Organisations may be subject to legal actions, including private actions or fines levied by various authorities, where allowed. There are also costs to the organisation's reputation. A loss of trust or confidence can have serious financial consequences on organisations.⁵⁶

External factors

Personal data is also at risk of intrusion from outside sources, and organisations are not the only vulnerable party; individuals' home computers and other devices are also at risk. Data is increasingly under threat from criminals, able to make fraudulent use of identity information gained through phishing or malicious spam, and more generally, techniques called malware (short for malicious software).

Malware has become a critical threat to the security of all who use the Internet – whether large organisations or individuals. Estimates indicate that there are tens of millions of compromised machines.⁵⁷ Often control of these computers is gained by infecting them with viruses. By one estimate, the total number of active bots (as in, highly aggressive bots that are attacking a number of computers) is approximately five million worldwide.⁵⁸ While criminal activity is at the root of such attacks, other parties, such as internet service providers, e-commerce companies, and users, have an influence on the effects of malware through the actions they take (or do not take). Strategies to mitigate the threat are evolving. The illicit use of personal data is more than a security issue. It raises questions of trust, applicable law, and the need for co-operation amongst law enforcement and privacy enforcement authorities, as well as private sector organisations, and highlights the reality that data protection laws were not intended to deal with such criminal uses of personal data.

3.2 Unanticipated uses of personal data

The ability to store data indefinitely and strides in analytics present enormous potential for using personal data for other purposes, possibly bringing significant economic or social benefits to both individuals and organisations. However, using personal data in ways that neither the organisation nor the individual anticipated when the data was collected can also contribute to the perception that privacy is at risk.

Analysing the digital trails left by individuals, by mining information about preferences, interests, behaviours, or buying patterns expressed on social networking sites, to cite but one example, represents a source of revenue for some organisations that provide services at no direct fee to Internet users. Health research is another area in which data collected for a particular purpose may later be used for other purposes not anticipated at the time of collection (possibly as a result of technological advances or breakthroughs in other areas). A recent example of an unanticipated use of personal data with a positive outcome involved the U.S. Centers for Disease Control and Prevention tracing a salmonella strain to its source because patients had used a “frequent shopper” card when buying groceries. In this instance, patients' permission was obtained, the information accessed, and the source of the outbreak was more easily located.

Some individuals may welcome some unanticipated uses of personal data, while others may not. Some unanticipated uses of personal data may be reconcilable with the original purposes for collection and use, whereas others may not be. Given technological developments and new business models, it is generally not possible to know or anticipate all the potential future uses of data at the time of collection. Given that data could live “forever”, some possible uses are unknown when consent is obtained and some of these future uses may not compromise privacy. Limiting uses of personal data may be perceived by some organisations as a barrier to the flow of personal data and the economic benefits that come from using that data. As businesses try to maximise the value of the information they hold, there is a risk of conflict with the expectations of individuals about how their data can or should be stored or used, with the possible result that individuals may not want to interact with that organisation.

Generally, individuals want to know about and be able to choose whether to consent to new, unrelated uses, and data protection regimes typically require this (subject to some exceptions to consent). Obtaining consent, either in terms of the permission organisations obtained initially or in going back to individuals to obtain consent for new purposes, presents risks. Many purposes for collecting personal data may be difficult to explain and equally difficult to understand. If the initial consent language is overly broad to take into account any potential uses of personal data, individuals may not know or understand what could happen to their personal data, and any consent they provide is arguably less than informed. Consequently, their trust in the organisation may be placed at risk. Returning to individuals to obtain consent may, in some instances, also risk the trust of the individual depending on how often consent is requested and what the new uses are. Privacy policies that are revised frequently to reflect rapidly changing uses risk confusing individuals and potentially making them wary of the organisation’s practices.

New uses of personal data can also create more personal data. Collecting increasing amounts of personal data can create security challenges for organisations, as more personal data is potentially at risk of privacy breaches. Unanticipated uses of personal data may also present a risk that the organisation is not being fully transparent about their practices, or is not limiting or obtaining new consent to their uses of personal data. On the other hand, being overly restrictive may limit innovation that could bring social or economic benefits or may limit the growth in revenues of certain organisations. While there is a risk that personal data could be misused, there is also a risk that valuable benefits from new uses of personal data might be lost.

3.3 Monitoring

Monitoring of individuals is on the rise. Developing a better understanding of individuals for social benefit purposes or for commercial purposes is one motivation for monitoring individuals. While monitoring may be conducted for legitimate purposes, there is always a risk that such activities may be perceived as excessive. There is also the risk that, in some instances, monitoring may not be used legally. The examples discussed in this section are intended to provide an overview of the types of monitoring in existence. They are not intended to suggest that they are necessarily inappropriate.

Types of monitoring systems include closed circuit television cameras (CCTV), which have been widely in use for some time. Some examples of where CCTV systems have been put in place include banks, shopping malls, airports, train stations, subways, apartment building corridors, and parking lots. Global Positioning Systems on mobile phones and in vehicles can be used to monitor an individual’s whereabouts.

These examples are of systems whose primary purpose is to monitor. However, monitoring can often be a by-product of some other service or technology, where data is collected and stored for other reasons, and then later analysed and used for a monitoring purpose (and may be considered an unanticipated use, as described in section 3.2). Deep packet inspection, ostensibly used for managing internet traffic, has the

potential to be used for tracking individuals for advertising purposes, for example, because it has the ability to “look into” the content of messages sent over the Internet. Cookies placed on computers to help web sites “remember” the visitor in order to provide better, streamlined service for the individual may also be useful for tracking and targeting audiences to serve advertisements.⁵⁹ Sensors in homes, used for monitoring power usage, is another example of a system that may be highly useful for helping to manage power grids and very beneficial to the environment, but also can have privacy implications through the same monitoring capabilities.⁶⁰ The use of loyalty cards by individuals to obtain discounts or special offers also records an individual’s spending habits. The combination of various types of technology (*i.e.* information from surveillance cameras, GPS, databases) can provide for more consistent and comprehensive monitoring of individuals.⁶¹

Some employers monitor employees’ use of websites and proprietary equipment to protect against litigation, illegal intrusions, to utilise limited bandwidth more effectively, to ensure employee productivity,⁶² and to protect customer information. In the private sector, according to one survey, 66% of U.S. employers monitor employees’ Internet usage on company computers, and 65% use software to block connections to inappropriate web sites – up 27% from 2001. Monitoring takes various forms, from tracking keystrokes to monitoring blogs to see what is written about the company. There is no reason to believe that U.S. employers are exceptional in this regard.

Increased monitoring results in increased information collection and storage that may be vulnerable to breaches or misuse. It may also contribute to a sense that the individual’s private space is shrinking, and there is concern that monitoring can lead to illegal discrimination against individuals. While monitoring may contribute to a sense of security, improved efficiency may provide economic or social benefits for some, for others it may cause a decline in trust and freedom.

3.4 Trust

In simple terms, trust means having faith or confidence in something or someone. It is at the core of the relationship between business and customer, government and citizen. With the rapid evolution of technology, trust remains critical. If individuals and organisations are to take advantage of the benefits arising from technological developments, they must have confidence in their reliability and safety. All of the issues noted above address the question of trust in these relationships: if individuals believe that data about them is held securely and collected for the stated purposes, if they are comfortable relying on organisations to inform them of, and seek consent for, new uses of their personal data, if they feel that any surveillance of them is for appropriate reasons and they are aware of it, then trust is strengthened.

However, if those conditions are not met, then trust can be undermined. For example, there is a risk that ID theft and high-profile data breaches may result in a loss of trust, particularly when they involve activities like e-banking and e-health that rely on sensitive information. Organisations are focussing on risks to their reputations from actual privacy incidents but certain practices involving data aggregation, processing and mining, for example, can also undermine trust if they occur without users being aware. Trust can be eroded if organisations frequently change their privacy policies to allow for increasingly broader uses of personal data. If users sense that they do not understand or lack control of an organisation’s use of their personal data, they may reconsider their relationship with that organisation. Education and awareness of actual risks and potential solutions are important for individuals to make informed decisions.

Maintaining trust (or restoring it after a breach) is vital to organisations. Careful attention to transparency, accountability, security, purpose limitations, and accessibility will help. Enforcement of data privacy laws is another means of reinforcing trust (including remedies). Questions remain, however, as to the best combination of policies and tools to protect privacy and preserve (or restore) trust in this evolving landscape.

4. CONSIDERATIONS AND CHALLENGES TO EXISTING PRIVACY APPROACHES

Are changes in technology, business models, and the role of the individual challenging the effective application of traditional core privacy concepts? There is a concern among some observers that privacy principles are being tested on many fronts and that the approaches taken to date may not be sufficient to respond to future challenges. That many key players are currently pausing to assess the situation may be symptomatic of a need to understand if and where the core privacy principles are being stretched.

Examples of such developments include the European Commission's launch in July 2009, of the Consultation on the legal framework for the fundamental right to protection of personal data, which is specifically examining the challenges to data protection, in light of globalisation and new technologies. In late 2009, the Federal Trade Commission launched its privacy roundtables to explore the privacy challenges posed by 21st century technology and business practices that collect and use consumer data, and how best to protect consumer privacy while balancing the beneficial uses of such information. Perhaps ahead of others, in 2006, the Australian Law Reform Commission launched an inquiry into whether Australia's data protection legislation provided adequate protection given changes in technology and possible changes in attitudes towards privacy. New Zealand's Law Commission is also conducting a privacy law review, in part to review social, technological and international developments that may have an impact on privacy in New Zealand.⁶³ In 2010, Canada's Office of the Privacy Commissioner undertook consultations on new technologies and their implications on privacy protection, in advance of an upcoming mandated review of its private-sector privacy law.

In addition to reflecting on the robustness of the core privacy principles, there is an increasing concern that the long-standing territorial/regional approaches to data protection may no longer be sufficient as the world increasingly moves online and data is available everywhere, at any time.

4.1 Scope of privacy protections

Distinguishing between what is "personal data" and what is not is becoming gradually more difficult. Technological progress increasingly permits data to be linked back to identifiable individuals in ways not anticipated when the data was collected. And technological progress is also making it easier, faster, and more affordable to do so. Data can be combined with other data and in the process may make individuals identifiable – sometimes to a high degree of statistical probability. For example, although currently there is some debate about whether IP addresses are personal data, there is an argument to be made in favour of considering it personal data in certain contexts when it is possible to identify an individual by linking an IP address to other information, such as web searches. Information garnered by web searches can also reveal very sensitive information about an individual's practices, preferences and beliefs. The volume of next generation IP addresses, IPv6, will allow greater use of static IP addresses, thereby potentially increasing the ease with which individuals can be identified.

How apparently disparate pieces of data can be linked to identifiable individuals has been illustrated in a number of relatively recent high-profile instances where "anonymised" databases were released publicly and researchers were able to link the data back to individuals by combining the anonymised data with information contained in other databases.⁶⁴ Such developments are posing challenges to privacy approaches, as increasing amounts and categories of data are brought within the scope of various privacy regimes, and the workability of the key protections provided by the privacy principles is tested. Questions around obtaining consent, transparency, data quality, access and safeguards are some of the key data protection principles that are being increasingly challenged in this regard. Furthermore, if any data has the potential to be personal data when combined with other data – and therefore subject to privacy regimes –

the impact on the availability of data for a number of activities that have traditionally relied on anonymised data may need to be considered.

The perceived impermeability of anonymised data has historically provided an easy solution to privacy concerns raised with respect to various spheres of activity, such as health research. However, efforts to protect personal data through anonymisation may instead be placing that same data at risk. If apparently “anonymised” data can be relatively easily “re-anonymised” in some cases, data protection requirements could then come into play. In areas such as health research, this could pose challenges (particularly around obtaining consent). Valuable social and economic benefits from such data flows may be placed at risk.⁶⁵ The practical limits of pseudonymisation and anonymisation are clearly being tested, and such limits may have implications for identity management strategies that facilitate anonymity and pseudonymity. There is the possibility that identities with different degrees of pseudonymity or that contain varying sets of attributes may allow others to discover the individual’s identity. This may place free expression, safety, and free association at risk.⁶⁶

The concept of “data controller” is also under scrutiny.⁶⁷ Given the large number of actors in the global value network (including individuals), roles and responsibilities are becoming blurred, and consideration needs to be given to how well adapted the notion of the data controller is to today’s environment.

Given the relatively static data transfers and comparatively simple business models and relationships in place when data protection principles were first being drawn up, the concept of data controller did not contemplate scenarios where many players could be considered data controllers. Increasingly complex business models and relationships, as well as new technologies, can make it challenging to determine who the data controller is and therefore who is responsible for protecting the personal data. Subcontracting, outsourcing, evolving partnerships between organisations in value chains, behavioural advertising, and other emerging business models can add layers of complexity in determining responsibilities and identifying roles. Often an entity can be a controller related to one use of information and a co-controller, processor or sub-processor for another.

Another example of new business models and new technologies that challenge the clear determination of data controllership concerns online platforms that can be accessed by third parties to develop applications, using personal data. While this may foster innovation and economic growth, the issue of which party is accountable for protecting the personal data of the users is one of serious concern to many observers, users, and privacy regulators.⁶⁸ In this context, individuals in a possibly non-commercial capacity may be acting as controllers and processors by developing applications, creating content or disseminating information. Another example of the changing nature of the data controller concerns RFID technologies. Does a retailer that sells goods with RFID chips embedded in them, but not enabled, bear any responsibility as a data controller?

The concept of data controller also did not necessarily contemplate the possibility of individuals acting in a manner similar to data controllers with respect to the personal data of others, a development that has been triggered by the emergence of Web 2.0. User-generated and crowd-sourced content raise issues around responsibility and liability. For example, videos that individuals post online about themselves can be reposted by others and even manipulated without the individual knowing about it. Making posts on social networking sites that refer to third parties or posting photographs of others are a few of the examples where individuals disclose the personal data of other parties, often without their knowledge or consent. The consequences to the individual in terms of reputation and future education and employment prospects can be significant. Many privacy laws do not apply to the use of personal data by individuals in a personal or domestic capacity, and the individual may be left largely unaccountable for his or her actions. Given the key role that individuals play in transmitting personal data, education and awareness activities may be

required to help them better understand the risks involved in posting information about themselves and others online, and further consideration may need to be given to their role in privacy protection frameworks.

Given the increasing complexity of interactions between certain types of technology and certain business models, the concept of data controller and processor as currently used may not accurately reflect the continuum of roles and responsibilities that new business models contemplate. Further consideration of how these concepts are used may be needed in order to ensure that responsibilities are properly addressed and allocated.

4.2 Role of transparency, purpose and consent

The individual is an active player in personal data flows, and technology and business models are presenting new kinds of uses of personal data. Privacy principles have given weight to the importance of individual control in privacy protection but questions can be asked about whether such emphasis is providing the best protection.

OECD's *Consumer Policy Toolkit* devotes some attention to the role that behavioural economics may play in individuals' choices and the implications that this may have for organisations and policy makers in terms of information provided to consumers to help them make choices. This work may also prove instructive in the area of privacy protection. As noted in the Toolkit,

Behavioural research has shown that how information is presented, or framed, can have dramatic effects on how consumers respond to that information, so policymakers must use care when designing disclosures if they want to achieve certain results.⁶⁹

Individuals tend to rely on "rules of thumb" when making decisions, a tendency that may lead them to ignore certain options or simply not make a choice. They also present inconsistencies when weighing probabilities, and may appear to place more value on the present than on the future. In turn, such behaviours affect how information is absorbed. More information for individuals about an organisation's privacy practices and personal data usage may not always be better. How choices are presented to individuals also appears to play a role in how choices are made. This has implications for default settings on web sites, for example. If they are overwhelmed by choices or complex information, individuals will tend to choose what is presented to them. Providing information that is understandable is a key component of transparency.

Given this, common approaches to notification and consent may not be providing the privacy protection originally intended. As data usage has become more complex, so too have the privacy policies that describe them. Many organisations tend to rely on these as a basis for consent, but given the implications about how individuals make decisions, questions can be asked about whether this focus on privacy notices and consent can continue to bear the weight they are often assigned in the process of affording protection. Do they allocate too much risk to the consenting individual, who rarely reads the information or understands it if they do? Alternatively, we may also need to consider whether an overly rigid interpretation of the concept of consent, in other words, one which assumes that explicit and specific consent is required for each and every transfer of information necessary to fulfil the original purpose of the transaction, runs the risk of being used to weaken the control which many privacy laws specifically aim to give individuals.

There is also the issue of the extent to which individuals have meaningful choices about what information they disclose. Typically, individuals cannot use a service unless they agree to the terms of use, which, in addition to being complex or legalistic, frequently present a "take it or leave it" approach. Under

such an approach the user must agree to provide personal data for all of the purposes the organisation represents – even if some are not directly related to the service – in order to access the service. This substantially limits the ability of the individual to protect their personal data by giving meaningful consent. Generally, the emphasis on consent based on overly complex privacy policies that provide few real options and few limitations on collection and use diminish the effectiveness of privacy protections that are intended to support the individual’s role in controlling his or her own personal data.

Access and Correction

Equally challenging to the notion of individual control is access and correction in the digital age. The dynamic “information life cycle” that characterises the collection, storage, use, and disclosure of personal data online is posing a challenge to the exercise of rights related to access, correction and erasure in a practical way. For example, how does one exercise his or her right to access personal data from a mapping site where images of streets were taken and the individual may have appeared in them? Or, if an individual wanted to know how and why a particular advertisement was served to them while they were surfing the Internet, how would they go about finding out? Who would they ask? Organisations may also find it challenging to explain the provenance of the data (although work in this area is being undertaken to address this issue – see section 5). When individuals create their own profiles on social networking sites, the ability to obtain access and make corrections may be obvious. But it is often not obvious how an individual can find out what other information (information that they did not post) may appear about them on the site and other locations. Rapid dissemination, indexing, caching and mirroring of data also pose problems for individuals seeking to correct personal data (or have it removed). The Guidelines do not contain a principle that directly relates to retention or disposal, and it is now more costly to delete data than to retain it.

Given the increasing reliance on various transactional data for automated risk management and profiling, the need for accuracy and the ability to correct information is likely even greater now than in the past. Organisations may also find it challenging to authenticate individuals who request access, correction or erasure, when the individual has had no prior relationship with the organisation.

4.3 National and regional approaches

Global flows of personal data are testing the territorial approach to data protection. When organisations operate internationally, individuals can connect to the Internet from anywhere in the world, and data stored in the “cloud” can be backed up in multiple locations (locations only made known to the cloud storage operator), questions of jurisdiction and oversight become complex, and there may be little certainty about the answers among organisations and privacy regulators. Safeguarding the personal data of individuals is needed regardless of where it is located but ensuring that that happens is not a simple matter. Would more consistent rules bring economic benefits in terms of jobs and growth and still provide appropriate protection to personal data wherever it is? Does the problem rest with the diversity of rules, the diversity of methods for ensuring compliance or a lack of understanding of national laws? The need to address these global governance issues has become increasingly acute as the gap widens between a territorial approach to regulation and the movement of data processing around the world.

The current patchwork of national or regional oversight does not, arguably, provide the protection of personal data that individuals may expect in a global economy. Some non-OECD member countries do not have privacy protection regimes or model codes. Among those that do, many of those regimes contain cross-border prohibitions.⁷⁰ Even among OECD member countries, there are variations. As detailed in section 1.3, countries and regions have chosen different approaches to protecting data and have expressed differing degrees of concern about barriers to cross-border data flows. These differences have presented various compliance challenges.

While it would appear that a globally agreed-upon set of standards, with global enforcement, could present the kind of privacy protection individuals expect while enabling the free flow of data, this approach is not without its challenges. Indeed, an international approach is not a new idea as it was part of the reason for developing the OECD Guidelines over 30 years ago.

The recent report on the “Future of Privacy” by the European Union’s Article 29 Data Protection Working Party/Working Party on Police and Justice recognises the challenges posed by globalisation of data flows and different privacy regimes. It makes a number of suggestions as to how data protection can be ensured wherever it is processed, highlighting the need for international global standards and international agreements.⁷¹ Other regions, for example, APEC, are also recognising the challenges that the global nature of data flows have on protecting personal data and are interested in finding common approaches to privacy protection. While recognition for the need for a common, global approach is growing, multiple regional approaches may pose further challenges in terms of their workability. Diverse cultural and legal traditions add to the complexity of finding a solution.

In addition to seeking a global standard, consideration needs to be given to ways to improve current co-ordination among the increasing number of regional and international fora for addressing privacy issues and enhancing multi-stakeholder participation. Recent efforts to improve cross-border enforcement co-operation are a step in the right direction. These are discussed in section 5.2, as well as in the OECD Report on Cross-border Privacy Enforcement Co-operation. There may be parallels with other efforts at global legal co-operation that could provide lessons for cohesive privacy protection.

Minimising differences is significant as organisations operating globally may not always be able, or willing, to tailor their service offerings to meet the specific needs of smaller jurisdictions. Individuals expect privacy protection wherever they are. The issue of reducing global compliance challenges facing businesses while ensuring more effective data privacy protection remains at the forefront even today, some 30 years after the first internationally-agreed set of privacy principles were adopted.

5. EVOLUTION AND INNOVATION IN PRIVACY GOVERNANCE

Although the fundamental principles of the Guidelines have remained unchanged over 30 years, there have been many innovative responses to the changing environment. The discussion below is not intended to be an exhaustive list of the various developments that have arisen over the years. The following review also does not attempt, for example, to outline the changes in governance, oversight or enforcement mechanisms over the past 30 years. Those mechanisms were extensively covered in the 2006 OECD *Report on Cross-Border Enforcement of Privacy Laws*.⁷² Rather, the following is a selection of key innovations in data protection since 1980.

Legislation that focuses on data security

Particular types of privacy problems have elicited special attention in recent years. Numerous countries (and in the United States and Canada, individual states and some provinces) have passed or are about to enact breach notification laws that would require organisations to inform individuals or authorities when a breach of security has led to a disclosure of their personal data. Many nations have also passed (or are about to pass) anti-spam legislation, often based on OECD guidance on combating spam,⁷³ which can be viewed as supplementary data protection legislation.

Information management/privacy by design

While there has been some evolution in the substantive rules governing privacy practices in recent years, the most dramatic initiatives and changes have emerged on the more practical aspects of implementing data privacy protections. Some initiatives involve the use of technical measures to protect privacy, some involve managing the lifecycle of personal data, while still others focus on global data transfers.

Although the Guidelines address security concerns, the environment was considerably different at the time of their development – before the Internet, unprecedented global data flows, and the arrival of the open and underground markets in personal data. Threats did not require the extensive evaluation that today’s environment demands. In 1992, the OECD *Guidelines for the Security of Information Systems and Networks* were developed to provide more detail concerning required security practices. Today, privacy impact assessments (PIAs) are helping organisations analyse the “life cycle” of personal data and take privacy into account before introducing new technologies or programmes. Such efforts can be seen as part of an overall privacy management framework and are an integral part of a mature security risk assessment. This has meant a new focus on information security that recognises that personal data is an asset that requires sustained protection. This transformation of the risk assessment and recognition of the parties potentially harmed from threats to information systems are very significant developments, and, in several countries, are largely a result of data breaches and the consequences that follow under data breach notification laws (*i.e.* fines, the costs of providing notice to affected individuals, and reputational harm).

Privacy impact assessments (PIAs) evolved in the 1990s as a means of systematically assessing risk in order to anticipate and mitigate privacy problems. Where they are commonplace, they are used typically by the public sector when introducing electronic initiatives⁷⁴ although the private sector may also use them. Some pieces of legislation require organisations to conduct PIAs. For example, the US *E-Government Act of 2002* mandates PIAs⁷⁵ for all federal IT systems that hold personally identifiable information, and Alberta’s *Health Information Act*, requires that a PIA be carried out under certain circumstances.⁷⁶ Similarly, the European Commission recommendation on Radio Frequency Identification (RFID) requires operators to conduct an assessment of the implications of an RFID application implementation for the protection of personal data and privacy, including whether the application could be used to monitor an individual.⁷⁷ Implemented as a tool for accountability, they can help organisations develop a “culture of privacy,” build trust and assist with legal compliance, among other benefits.⁷⁸ They promote cohesion between privacy and security communities within the organisation. They can also minimise costs in the longer term since fixing privacy problems after the fact can be very costly for organisations.

Some organisations have external verifications or audits conducted on their privacy practices. Some also conduct audits on any third parties that are involved in data processing on behalf of the organisation.

Leveraging technology to enhance privacy has been recognised as a valuable approach in recent years. The concept of Privacy Enhancing Technologies (PETs) gained ground in the 1990s, and the European Commission held a symposium on the issue in 2003 and 2009. “Privacy by design” is a concept in which privacy is a default design objective in any IT system or business practice.⁷⁹ Following this paradigm, technologies, processes, and practices to protect privacy are built into the system architecture and not added on later as an afterthought. In this way personal data is managed throughout its life cycle. One of the goals is to be transparent to users and providers and to incorporate the elements of “fair information practices” into the system’s architecture.⁸⁰ Some of the challenges in helping individuals remain in control of their personal data, particularly with respect to providing access to and enabling them to correct their personal data, may be addressed through technical standards and tools. These standards and tools can record and describe the actual lifecycle of personal data collected and held by an organisation (such as, provenance) and may assist organisations’ management of personal data and facilitate accountability.

In an effort to facilitate flows of personal data from one system to another (where appropriate), systems for managing digital identities, and associated personal data, are moving towards greater interoperability. Depending on how they are used, they can offer the potential of giving individuals greater control over their identities and personal data, often increasing the utility of data due to improved accuracy and otherwise enabling innovation.⁸¹ They can also be used to help address the challenge organisations may have in authenticating individuals who request access, correction or erasure of their personal data. Recognising the important contribution identity management can play to improving privacy and security, the OECD developed a primer on digital identity management.

The concept of a “privacy management framework” is another approach that has developed to help organisations better manage their personal data handling practices. Generally speaking, privacy management frameworks include the policies, procedures, and systems (including considerations of how to optimize technology to enable privacy) that organisations employ to ensure that personal data is properly protected, risks are managed, and privacy legislation is complied with. Such frameworks can incorporate PIAs into an organisation’s risk management and can promote accountability through reporting, audits, education, and performance appraisals.⁸² A strategic information management approach is similar. It recognises that information (whether personal or not) is an important business asset. Its goal is to ensure that data is protected appropriately, that laws regulating the data are complied with, and that costs and benefits of particular uses of data are assessed.⁸³

As outlined in the OECD *Guidelines for the Security of Information Systems and Networks*, with the Internet supporting critical infrastructures and playing a greater role in business and government transactions, the security of information systems is critical.⁸⁴ Governments and organisations have adopted a number of approaches, from passing legislation aimed at fighting cybercrime, to establishing policies, to education. International co-operation has also played a key role in facilitating the sharing of best practices.

There has also been some work on finding innovative, non-technical means of improving transparency for individuals. For example, different types of privacy policy presentations, intended to improve readability of policies by online users are being studied.⁸⁵ Efforts have been made to simplify privacy policies (for example, short form policies, video policies), and privacy controls have been presented in the form of dashboards and decision trees. Other efforts include tools to help Internet users access and track the various policies governing the web sites they visit.⁸⁶ Some of these new tools may provide a promising path forward in terms of increasing transparency and providing for user control.

Role of accountability

Accountability is a principle in the OECD Guidelines and has been included in numerous data protection laws. Over the past 30 years, various instruments have evolved which focus on accountability, some of which are detailed below. While the principle is not new, there is growing interest in how the principle can be better used to promote and define organisational responsibility for privacy protection. The development of better data security practices and more basic considerations of privacy within organisations in response to data breach legislation indicate an evolution in accountability.

In the European Union, organisations are prevented from transferring personal data to jurisdictions outside of the union unless the European Commission has determined that there exists “adequate” legal protection of the data or that adequacy is ensured by other means. One approach that has been developed to meet the adequacy requirement is the EU-US Safe Harbor Framework (“Safe Harbor”). Safe Harbor was developed as a means to help EU organisations comply with the European Directive on Data Protection in order to enable personal data flows to continue to the United States. Organisations in the US that self-certify to Safe Harbor demonstrate to EU data exporters that they provide privacy protection that is deemed

adequate by the European Commission. Eligible companies self-certify that they adhere to the Safe Harbor requirements.⁸⁷

Another use of accountability to facilitate cross-border transfers of personal data and protect personal data processed outside of the EU by multinational organisations is Binding Corporate Rules (BCRs). BCRs are codes that protect personal data in such transfers and in order to assert adequacy within the context of EU data protection requirements. A key element of BCRs is that the “binding nature of the rules in practice. . . would imply that the members of the corporate group, as well as each employee within it, will feel compelled to comply.”⁸⁸ Companies are required to demonstrate such compliance to the appropriate data protection authorities. This includes, among other things, showing that a policy is in place, employees are aware of it and have been trained appropriately, a person who is responsible for compliance has been appointed, audits are undertaken, a system for handling complaints has been set up, and the organisation is being transparent about the transfer of data. In short, BCRs compel organisations to demonstrate how they are in compliance with all aspects of applicable data protection legislation.

APEC members are developing Cross-Border Privacy Rules (CBPRs), which is a mechanism to implement the principles in the APEC Privacy Framework.⁸⁹ Accountability is a key component of CBPRs as they include a role for accountability agents, which may include trustmarks, seals, and other private bodies.

An initiative known as the “Galway Project” (continuing now as the “Paris Project”) has brought together a group of government, business and academic representatives to develop the concept of accountability. As part of this work, it is examining how accountability can address the protection of cross-border information transfers.⁹⁰ The Article 29 Working Party recently issued an opinion on the principle of accountability, proposing that such a principle be added to the EU Directive.⁹¹ This principle aims at strengthening the role of data controllers and increasing their responsibility for compliance. The principle would explicitly require data controllers to implement appropriate and effective measures to put into effect the legal principles and obligations and demonstrate this to the supervisory authority upon request.

Trustmarks have also arisen in recent years as a means of assuring consumers that identified web sites offer privacy protection for its users. For example, a Japanese industry run programme started in 1998, the PrivacyMark System, has issued trustmarks to nearly 12 000 entities in Japan.⁹² Generally, in order to obtain a trustmark or seal, an organisation must show that it is adhering to good privacy practices. Although trustmarks have been criticised for, among other things, the variability in privacy standards that they set and their lack of enforcement,⁹³ in those countries without privacy laws, they may offer an important layer of protection.

Cross-border enforcement co-operation by privacy enforcement authorities

Authorities with privacy enforcement responsibility are increasingly exploring mechanisms to co-operate with one another on a global basis in order to pursue complaints or conduct investigations relating to the activities of organisations outside of their borders. The OECD *Recommendation on Cross-border Co-operation in the Enforcement of Laws Protecting Privacy* (2007) represents a commitment on the part of member countries to promote closer co-operation among privacy enforcement authorities to help them exchange information and carry out investigations with their foreign counterparts.⁹⁴

Likewise, the APEC Co-operation Arrangement for Cross-border Privacy Enforcement (2009) represents an important step in support of a voluntary system of cross-border privacy rules based on the APEC Privacy Framework.⁹⁵ The APEC Arrangement was designed to be compatible with the OECD

Recommendation in key respects, for instance, using similar definitions and anticipating the swapping of the list of economy contact points with the similar OECD list of national contact points.

The International Conference of Data Protection and Privacy Commissioners has adopted resolutions concerning international co-operation with other independent data protection authorities. The Article 29 Data Protection Working Party has also recognized the importance of co-operation in enforcing data protection laws.

In March 2010, 11 privacy enforcement authorities launched the Global Privacy Enforcement Network (GPEN), in recognition of the need to co-operate. The GPEN is a network designed to focus on the practical aspects of privacy enforcement co-operation. Among other things, GPEN provides points of contact for participating authorities to facilitate bilateral investigative and enforcement co-operation on specific matters. In addition, the GPEN participants intend to discuss enforcement issues, trends and experiences, as well as investigative techniques. The number of privacy enforcement authorities participating in GPEN has risen to 18 since the launch.

In 2009, the European Union and the United States High Level Contact Group (HLCG) issued a set of common principles on privacy and personal data protection for law enforcement purposes.⁹⁶ These principles complement the OECD Guidelines and provide a basis for further enhanced co-operation among law enforcement authorities while ensuring the privacy of EU and US individuals.

A nascent privacy profession

In recent years, organisations have responded in various ways to enhance privacy. Faced with organisational changes as a result of technology and increased operations in multiple jurisdictions, many of which have existing legal privacy requirements or have adopted new ones in recent years, organisations are increasingly devoting more resources to internal governance mechanisms to protect personal data. With this, we have seen the rise of the privacy practitioner.⁹⁷

In some cases there is a statutory basis to support or encourage the role of the privacy professional. For example, Germany's *Bundesdatenschutzgesetz* (Federal Data Protection Act) sets out specific requirements concerning the data protection officials in organisations. Canada's federal private sector legislation, PIPEDA, requires an organisation to designate an individual(s) to be responsible for its personal data handling activities, and the EU Directive also contains a reference to a personal data protection official. New Zealand's *Privacy Act* requires every agency in both the public and private sectors to appoint a privacy officer. Various pieces of US legislation require federal agencies to have Chief Privacy Officers or Senior Agency Officials for Privacy.

Some work has begun on defining the competencies of the privacy professional, with the Canadian Access and Privacy Association developing a professional standards and certification project.⁹⁸ The emergence of a privacy profession has facilitated information sharing among privacy practitioners and it has contributed to organisational expertise. A number of organisations have also been created to support privacy practitioners.

The International Association of Privacy Professionals (IAPP) was founded in 2000 to define, promote and improve the privacy profession globally. It provides a credential programme in information privacy, as well as educational and professional development services, and hosts yearly conferences on privacy. Members of the European Privacy Officers Forum (EPOF) include data protection compliance officers and counsel from Europe. Members exchange information regarding data protection compliance, and the forum serves as a means for data protection authorities and business representatives to interact and discuss issues of mutual concern.⁹⁹ Members in the European Privacy Officers Network (EPON) include

data protection professionals who work for organisations that operate in more than one country. It meets three times a year to discuss privacy issues related to cross-border data flows.¹⁰⁰

In the past 10 years, there has been an explosion in the number of newsletters and books on privacy and data protection. Given technological changes, the passage of new laws, the effects of international events on national security, and the development of a privacy profession, there is an increased interest on the part of academics, lawyers and the media in the issue of privacy.

The growing voice of civil society

Civil society has long been an important voice in promoting data protection, conducting and publishing research, and holding organisations and data protection authorities accountable in a variety of ways. Representatives of civil society attend OECD Working Party on Information Security and Privacy meetings through the Civil Society Information Society Advisory Committee (CSISAC), and participate in the work of APEC as well. Civil society has been an important part of the International Conference of Data Protection and Privacy Commissioners for many years, speaking at the conference and holding parallel conferences, and recently adopting a declaration of its own, the Madrid Declaration – Global Standards for a Global World.¹⁰¹

Privacy International celebrated its 20th anniversary in 2010, and many other organisations (some are listed below) have developed to advocate on myriad issues, such as consumer protection, intellectual property rights, PETs, and identity theft deterrence measures. These groups have, over the years, raised important issues through filing complaints to oversight authorities on matters, such as cookies, data transfers, street-level imaging, and social networking site practices. They have joined together in coalitions, such as the European Digital Rights Initiative (EDRI), The Public Voice Coalition, the U.S. Privacy Coalition, and the Trans Atlantic Consumer Dialogue, to raise public awareness of privacy issues.

The Public Voice Coalition was established in 1996 by the Electronic Privacy Information Center (EPIC) to promote public participation in the future of the Internet. It works towards bringing civil society and government together to discuss public policy issues and has been a partner with the OECD in a number of events.¹⁰² The Trans Atlantic Consumer Dialogue (TACD) is a forum of United States and European Union consumer organisations. It develops and provides joint consumer policy recommendations to United States and European Union governments, and promotes consumer interests. One of its key work areas is the information society.¹⁰³

Education, awareness

There is a growing recognition that more needs to be done to make individuals aware of their rights and to promote data protection generally. To this end, Data Privacy Day/Data Protection Day is celebrated every year with events in Canada, the United States, and 27 European countries, on January 28 to raise awareness and generate discussion about the importance of privacy.¹⁰⁴ Privacy Awareness Week, celebrated since 2006 in the Asia-Pacific Region, now during May, also has the same purpose of raising awareness of the importance of privacy.¹⁰⁵ There have also been some recent efforts to find a single date to acknowledge privacy protection worldwide.

The London Initiative flowed from the 2006 International Conference of Data and Privacy Commissioners in London. It represents a “commitment by data protection authorities to focus on pragmatic effectiveness and improved communication.”¹⁰⁶

Some organisations have developed online information resources for the benefit of organisations and individuals. For example, the OECD has a Privacy Policy Statement Generator, which is a tool designed to assist organisations in conducting an internal review of its existing personal data practices and developing

a privacy policy.¹⁰⁷ The Virtual Privacy Office is a joint project of several data protection authorities that provides education information for anyone interested in privacy via a web site. It is managed by the Independent Centre for Privacy Protection Schleswig-Holstein.¹⁰⁸ The International Privacy Law Library enables searches on databases that specialise in privacy law. These databases are available in the WorldLII library.¹⁰⁹

Many privacy enforcement authorities also have a specific mandate to promote privacy or data protection through public education. This mandate manifests itself in a variety of ways, from using web sites or Web 2.0 media to inform individuals and organisations about privacy, to speeches, news releases, opinion pieces for news media, conferences, and other forms of outreach to the public and organisations.

A move towards harmonisation

Under the auspices of the International Conference of Data Protection and Privacy Commissioners, the Spanish Data Protection Authority is leading a project to develop, disseminate and promote the Joint Proposal for a Draft of International Standards on the Protection of Privacy with regard to the Processing of Personal Data. A very recent attempt to present a global norm, the proposal articulates a draft set of minimum privacy principles that members of the International Conference believe are “present in different instruments, guidelines or recommendations of international scope and that have received a broad consensus in their respective geographical, economic or legal areas.”¹¹⁰ The Joint Proposal also incorporates various recent data protection measures, including information management strategies, employee training, and appointment of individuals who are responsible for an organisation’s data protection practices, codes of practice, audits, privacy enhancing technologies, and privacy impact assessments. At the 31st International Conference of Data Protection and Privacy Commissioners, members adopted a resolution (the “Madrid Resolution”) in support of the Joint Proposal for a Draft of International Standards on 6 November 2009.

In 2005, the International Conference of Data Protection and Privacy Commissioners issued the Montreux Declaration, aimed at strengthening the universal nature of data protection principles.¹¹¹ There was a similar bid at the World Summit on the Information Society to have privacy recognised as a human right.¹¹²

In April 2010, the Council on General Affairs and Policy of The Hague Conference on Private International Law adopted a document entitled “Cross-Border Data Flows and Protection of Privacy” that outlines the organisation's possible future work in the area of privacy and data protection law. The document contains an overview of international data protection initiatives of the last few years, and addresses various cross-border co-operation issues, including problems created by the difficulty of determining applicable law and jurisdiction in cross-border data flows. The paper concludes by identifying three areas where The Hague Conference could play a role, namely *i*) identifying possible uncertainties on the applicable law to cross-border data flows, *ii*) assessing the feasibility of tools already successfully implemented by the The Hague Conference on transnational co-operation and co-ordination in other contexts as models for cross-border data flow questions; and *iii*) contributing to the ongoing debate whether additional multilateral efforts are feasible and/or desirable and whether it would bring added advantages with respect to existing instruments.

International and regional networks of privacy authorities

Authorities with responsibility for protecting personal data and privacy and other stakeholders meet regularly in a variety of forums to share best practices and expertise, to promote data protection, and to discuss issues of mutual interest. Some of these groupings include members from around the world; others

are more regionally focused. All represent attempts to work together, learn from each other, and build international co-operation.

The International Conference of Data Protection and Privacy Commissioners has been meeting regularly for more than three decades. In addition to Commissioners and representatives from their offices, conference participants include representatives of industry and government, civil society, and academics. There is also a members-only “closed-session” meeting to discuss and adopt resolutions, and other conference business. The International Working Group on Data Protection in Telecommunications has adopted numerous recommendations aimed at improving the protection of privacy in telecommunications. The Group is composed of representatives of privacy enforcement authorities, other government and international organisations.¹¹³

The Conference and the Working Group are well-established networks. However, in recent years, there has been a dramatic growth in the number of new networks appearing. Various regional networks have been bringing together countries with common geographic or linguistic links. Some examples include the Ibero-American Data Protection Network, which was formed “to foster, maintain and strengthen a close and constant exchange of information, experiences and knowledge among Ibero-American Countries, through dialogue and collaboration in issues related to personal data protection.”¹¹⁴ The Asia Pacific Privacy Authorities (APPA) Forum meets twice a year to facilitate the sharing of knowledge and resources between privacy authorities within the region, foster co-operation, promote best practice, and work to continuously improve performance.¹¹⁵ The Article 29 Working Party is an independent body that provides expert opinions on data protection to the European Commission, promotes a uniform application of the European Directive among the various states, advises the Commission about any measures that may affect privacy rights, and makes recommendations on data protection issues in the European Community.¹¹⁶ Since 1991, European data protection authorities have been meeting annually at the Spring Conference of European Data Protection Authorities. Under this conference, the Working Party on Police and Justice operates. This is the body of European authorities that advises on any matters related to police and judicial co-operation. Moreover, staff members of authorities meet twice a year in the conference’s Case Handling Workshops, which exchange information on the day-to-day business of the authorities. The *Association francophone des autorités de protection des données personnelles* was established in 2007. It promotes co-operation and training among French-speaking countries in the area of personal data protection. Its objective is to provide a structure for countries that have recently adopted privacy legislation. It constitutes a source of expertise for countries where there is no data protection legislation in place yet.¹¹⁷

Technical standards work and the open technical community

International standards bodies are currently working on establishing technical standards to assist organisations in better protecting personal data. The International Organization for Standardization (ISO) is working on technical standards for a Privacy Framework and Privacy Reference Architecture. Regional standards organisations, such as the American National Standards Institute (ANSI), and the European Committee for Standardization (CEN), are other examples of other organisations working on data protection standards. The European Telecommunications Standards Institute (ETSI) produces standards for Information and Communications Technologies. CEN\ISSS reported to the European Commission in 2003, on the utility of standards in enforcing the Directive. Much work continues in setting standards for networks, biometrics, identity and authentication, cryptographic protocols, security management, de-identification of health information, data storage, and other standards that have a bearing on privacy architectures.

Privacy has also gained increasing prominence in Internet governance discussions, particularly at the annual United Nations Internet Governance Forum (IGF) and the regional IGFs. In 2009 and 2010, the IGF program included a main session on Security, Openness and Privacy, as well as numerous workshops

devoted to privacy issues. This is an example of the growing recognition of the value of multi-stakeholder collaboration and a holistic approach to privacy issues.¹¹⁸

Many organisations working on Internet technologies are beginning to focus more explicitly on personal data privacy. Supporting these efforts, standards-setting organisations are actively developing privacy-protecting patterns within their specifications.

In this effort, work within general standards-setting organisations, such as the Internet Engineering Task Force (IETF) (*e.g.* OAuth), World Wide Web Consortium (W3C) (*e.g.* STS), and the Organization for the Advancement of Structured Information Standards (OASIS) (*e.g.* SAML, XACML), is finding common ground with organisations such as the OpenID Foundation, Information Card Foundation, and the Kantara Initiative that are focused more specifically on identity solutions. The commonality found across the many stakeholders is the growing understanding that users play an important role alongside government and enterprise in the protection of their privacy and personal data.¹¹⁹

Accompanying many efforts is a paradigm shift away from centralised command-and-control approaches relying entirely on cryptographic security as a means of handling and protecting personal data. The emerging focus is on providing granular access to specific personal data that may be distributed across multiple “authoritative sources” (*e.g.* health services, financial services, or government services).

CONCLUSION

The OECD Privacy Guidelines have been a remarkable success, representing the first internationally agreed-upon set of privacy principles. The eight basic principles are concise, technologically neutral, and written using commonly understood language. This has made them adaptable to various government and legal structures, as well as to the changing social and technological environment, and has contributed to their enduring influence and importance. In the ensuing 30 years, they have been highly influential in the development of national data protection legislation and model codes within the OECD member countries. They have also influenced the development of the APEC Privacy Framework, thus expanding the reach of the Guidelines outside of the OECD member countries.

The Guidelines were forward-looking in orientation, anticipating many of the technological advancements that have since arisen. The improvements in processing of personal data have brought significant economic benefits as organisations have been able to expand their reach globally and have found innovative uses of personal data. Individuals have been able to seek information and products that are of benefit to them. Individuals have also experienced social benefits and are able to maintain contacts and relationships or conduct personal research or engage with their governments. The role of personal data protection principles in helping to maintain trust is integral to the continued benefits of personal data flows.

The scale and capabilities of data gathering, aggregation, correlation and analysis are radically different from what they were in 1980. Business models and data flows have also evolved. These changes are placing pressure on the scope of the privacy protections outlined in the Guidelines. The definition of personal data in the Guidelines is broad (“any information related to an identified or identifiable individual”) which, given the current power of analytics and the apparent limitations of anonymisation techniques, means vast amounts of data potentially now fall under the scope of privacy regimes.

In addition to the expanding amount of data that can be considered “personal data”, the concepts of data controller and data processor are under scrutiny. What was not foreseen at the time of the Guidelines was the key part that the individual would play in personal data flows and how personal data would become a “currency” on the Internet, such is the perceived economic value of the data. The individual was a passive player when personal data protection principles were being developed. Today, the individual is an active player in personal data creation and dissemination and may need to better understand his/her role in privacy protection. Certain types of technology and certain business models also present hurdles in determining who the data controller is. When the scope of data protection is broad and the responsible party is unclear, the core privacy principles become more challenging to implement and enforce. The risk is that personal data is not being adequately protected.

Although the individual is an active player in personal data flows, the ability to exert control over his/her own personal data is now more difficult. Individuals often face a lack of information or overly complex information about how, why and by whom their personal data may be used. Relying on “rules of thumb” when making decisions, presenting inconsistencies when weighing probabilities, placing more value on the present than on the future, affect how individuals understand information that is presented to them and may affect how they make privacy decisions. A further complication may arise when privacy policies change too frequently, which may also add to the general confusion of individuals. Obtaining access to their personal data can also be challenging both for individuals and organisations, given business models and the volume of data. The degree of protection ensured by obtaining individuals’ consent to uses and individuals’ control of their personal data by having access to it is less clear and may need further consideration.

Data also lives on. The costs of storing data today are far less than in 1980 while the costs of disposing of it are greater. The Guidelines do not contain a data retention principle although many privacy

regimes do. The implications of data persistence are nonetheless significant – whether it is the effect on an individual’s reputation, the unanticipated and unauthorised uses of data, or the threats from breaches or malware to increasing amounts data that is stored indeterminately. Data breach notification has become an increasingly significant element of privacy oversight.

Advances in technology along with changes in organisation’s business models and practices have turned personal data transfers into personal data flows. Data is moving across borders, continuously. In light of this, security of personal data is paramount. Whether it is the result of mishandling of personal data by an organisation or threats to the security of data from outside forces, greater volumes of personal data are at risk and require protection more than ever.

The global nature of data flows has brought uncertainty over questions of applicable law, jurisdiction and oversight. Some organisations may not always be able or willing to tailor their services to meet the specific needs of each jurisdiction. Challenges to compliance with multiple data protection regimes may be significant, and personal data and economic growth may be threatened.

The current volume of data flows has highlighted the differences that remain among various national and regional approaches to data protection. The Guidelines sought to strike a balance between legitimate concerns regarding the need to establish principles to protect personal data and at the same time to prevent data flows from being inhibited.¹²⁰ They reflect the debate and the legislative work that went on in various Member countries in the years prior to the adoption. The Guidelines also reflect an arrangement whereby all OECD members at the time should implement privacy protections consistent with those outlined in the Guidelines (which should be regarded as a minimum) and not restrict data movement to other countries that are abiding by the Guidelines (subject to some exceptions). This arrangement, however, has not been reflected in all privacy regimes since implementation. For example, the EU Directive imposes requirements that go beyond those laid out in the Guidelines, and many OECD member countries have legislation that imposes similar requirements. Countries have chosen different approaches to protecting data and have expressed differing degrees of concern about barriers to cross-border data flows. Some countries have not implemented national legislation on data protection. Questions can be asked, therefore, about how influential the Guidelines have been in encouraging approaches that seek a balance between protecting personal data and preventing barriers to transborder data flows.

A renewed focus in recent years on finding common approaches to privacy protection at a global level, such as the development of international standards, is a response to the borderless nature of data flows, concerns around impediments to those flows, and the different cultural and legal traditions that have shaped the implementation of the Guidelines over the past 30 years. It is also a response to the challenges posed by technological and business model changes in recent years. The Guidelines have, in many respects, faced these challenges well. It is clear, however, that global solutions are needed and that a better understanding of different cultures’ views of privacy and the social and economic value of transborder data flows is required to achieve this goal.

When the Guidelines were developed, the drafters drew on the work of others sources, such as the Nordic Council, the United States Government, and the Council of Europe. Currently, many key players, such as the European Union and the United States, are taking a careful look at the effectiveness of their personal data protection regimes. There are movements to seek consensus on developing privacy protections in increasing numbers of countries. In going forward, attention should be given to studying these approaches in order to learn best practices and to build consensus within the privacy, business and government community to ensure a balance between legitimate organisational interests in data flows and the need for protecting privacy in the 21st century.

Our current legal and policy frameworks – most of which were developed in the 1970s or 1980s – could take advantage of more recent approaches to protecting privacy in today’s environment. Various innovations in privacy governance have appeared over the past two decades to respond to the challenges to privacy that have resulted from technological changes. They vary from technological responses to the use of privacy by design and a focus on data management, from international and regional networks and co-operation efforts to a deepening examination of the role of accountability, and the need for education and awareness. Close attention may need to be given to the role these responses can play in improving privacy protection.

NOTES

- ¹ See, Samuel D. Warren and Louis D. Brandeis, “The Right to Privacy,” in *Harvard Law Review*. Vol. IV, No. 6 (15 December 1890). In 1928, as a Justice on the U.S. Supreme Court, Brandeis once again addressed the impact of technology on privacy when he dissented in a 1928 ruling that allowed warrantless wiretaps. http://groups.csail.mit.edu/mac/classes/6.805/articles/privacy/Privacy_brand_warr2.html
- ² See, Colin Bennett, *Regulating Privacy: Data Protection and Public Policy in Europe and the United States* (Ithaca: Cornell University Press, 1992)
- ³ See, www.habeasdata.org/Interview-with-Spiros-Simitis.
- ⁴ See, <http://aspe.hhs.gov/datacncl/1973privacy/tocprefacemembers.htm>.
- ⁵ See, Alan F. Westin, *Privacy and Freedom* (New York: Atheneum, 1967).
- ⁶ See, Alan F. Westin and Michael Baker, *Databanks in a Free Society* (New York: Quadrangle/New York Times Cook Co., 1972).
- ⁷ See, Paul Sieghart, *Privacy and Computers* (London: Latimer, 1976).
- ⁸ See, Frits W. Hondius, *Emerging Data Protection in Europe*, (Amsterdam; North-Holland Publishing Company, 1975).
- ⁹ See, [www.coe.int/t/e/legal_affairs/legal_co-operation/data_protection/documents/international%20legal%20instruments/1Resolution\(73\)22_EN.pdf](http://www.coe.int/t/e/legal_affairs/legal_co-operation/data_protection/documents/international%20legal%20instruments/1Resolution(73)22_EN.pdf).
- ¹⁰ See, James Rule, Douglas McAdam, Linda Stearns and David Uglow, *The Politics of Privacy: Planning for Personal Data Systems as Powerful Technologies* (New York: Elsevier, 1980), p. 111.
- ¹¹ See, OECD (1976), *Policy Issues in data protection and privacy: concepts and perspectives*, OECD, Paris.
- ¹² Quoted in John M. Eger, “Emerging Restrictions on Transnational Data Flows: Privacy Protections or Non-Tariff Barriers?” in *Law and Policy in International Business*, Vol. 10, No. 4 (1978) pp. 1065-66.
- ¹³ See, the Honourable Justice Michael Kirby, “Privacy Protection – A New Beginning”, presentation to the 21st International Conference on Privacy and Personal Data Protection, Hong Kong, 13 September, 1999 www.austlii.edu.au/au/journals/PLPR/1999/41.html.
- ¹⁴ See, Australian Government First Stage Response to ALRC Privacy Report, October 2009, www.dpvc.gov.au/privacy/alrc_docs/stage1_au_govt_response.pdf.
- ¹⁵ Privacy (Cross-border Information) Amendment Bill inserts a new Schedule 5A into the *Privacy Act 1993*.

- 16 See, Françoise Gilbert, *Global Privacy and Security Law*, Vol. 2 (Aspen, 2009) §57.01-57.02[B], 57.02[E], 57.02[F].
- 17 The Spanish version of the legislation can be found here:
www.dof.gob.mx/nota_detalle.php?codigo=5150631&fecha=05/07/2010. For an unofficial translation into English, visit:
[https://www.privacyassociation.org/images/uploads/Mexico%20Federal%20Data%20Protection%20Act%20\(July%202010\).pdf](https://www.privacyassociation.org/images/uploads/Mexico%20Federal%20Data%20Protection%20Act%20(July%202010).pdf).
- 18 For example, the United States passed the *Federal Information Security Management Act, 2002*, which requires each federal agency to develop, document and implement a programme to provide information security. With respect to accountability, the *US Appropriations Act 2005* created the positions of Chief Privacy Officers and Senior Officers for Privacy in all federal agencies. Japan's *Act on the Protection of Personal Information* requires businesses to appoint Chief Privacy Officers to implement the organisation's privacy practices.
- 19 See, http://privacymark.org/protection_group/about.html.
- 20 See, OECD (2006), *Report on Cross-Border Enforcement of Privacy Laws*, OECD, Paris www.oecd.org/dataoecd/17/43/37558845.pdf.
- 21 Many laws penalize those who violate the principles. The US *Computer Fraud and Abuse Act*, which establishes criminal penalties for unauthorised access to computers or networks, and Japan's *Act concerning the Protection of Personal Information Held by Administrative Organs*, which outlines criminal provisions for government officials who leak personal information without justification, are two examples.
- 22 See, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31995L0046:EN:HTML>
- 23 See, *APEC Privacy Framework*, 2004, para 4.
- 24 See, "International agreements to protect personal data," Lee A. Bygrave, in *Global Privacy Protection: The First Generation*, James B. Rule and Graham William Greenleaf, (Cheltenham: Edward Elgar Publishing Limited, 2008), pp 29-30.
- 25 See, www.oecd.org/sti/privacycooperation
- 26 See, OECD (1999), *Guidelines for Consumer Protection in the Context of Electronic Commerce*, OECD, Paris www.oecd.org/document/51/0,2340,en_2649_34267_1824435_1_1_1_1,00.html
- 27 See, OECD (2009), *Empowering E-consumers, Strengthening Consumer Protection in the Internet Economy*, OECD, Paris www.oecd.org/dataoecd/44/13/44047583.pdf.
- 28 See, OECD (1980), *Guidelines on the Protection of Privacy and Transborder Flows of Personal Data: Explanatory Memorandum*, OECD, Paris www.oecd.org/document/18/0,3343,en_2649_34255_1815186_1_1_1_1,00.html.
- 29 See, OECD Key ICT Indicators www.oecd.org/sti/ICTindicators.
- 30 See, OECD (2009), *Communications Outlook*, OECD, Paris www.oecd.org/document/44/0,3343,en_2649_34225_43435308_1_1_1_1,00.html.
- 31 See, www.pewinternet.org/Reports/2010/Social-Media-and-Young-Adults.aspx.

32 See, OECD *Key ICT Indicators* www.oecd.org/sti/ICTIndicators.

33 See, Internet World Stats, January 2010, www.internetworldstats.com.

34 Verdone et al., (2008), as cited in OECD (2009) *Smart Sensor Networks: Technologies and Applications for Green Growth*, Paris, 2009 www.oecd.org/dataoecd/39/62/44379113.pdf.

35 See, OECD (2009) *Smart Sensor Networks: Technologies and Applications for Green Growth*, Paris, 2009 www.oecd.org/dataoecd/39/62/44379113.pdf.

36 See, OECD *Policy Guidance on Radio Frequency Identification*, Paris, 2008 www.oecd.org/dataoecd/19/42/40892347.pdf.

37 See, www.priv.gc.ca/cf-dc/2004/cf-dc_040903_e.cfm.

38 See, www.thirdfactor.com/2009/11/06/pittsburgh-schools-requiring-biometric-lunch-payment%20.

39 Five years after the acceptance of the Guidelines, the importance of these flows were highlighted again in the OECD Declaration on Transborder Data Flows (1985). Member countries agreed to conduct further work on this issue.

40 See, Paul Schwartz, “Managing Global Data Privacy: Cross-Border Information Flows in a Networked Environment, 2009”, A Report from the Privacy Projects.org <http://theprivacyprojects.org/wp-content/uploads/2009/08/The-Privacy-Projects-Paul-Schwartz-Global-Data-Flows-20093.pdf>.

41 Cloud computing, includes activities such as Web 2.0, web services, the Grid, and Software as a Service (SaaS), which are enabling users to tap data and software residing on the Internet, rather than on a personal computer or a local server (from the OECD Briefing Paper on Cloud Computing and Public Policy).

42 Ibid, para. 47.

43 The NIST definition of cloud computing is as follows: “Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.” This cloud model promotes availability and is composed of essential **characteristics**, **service models**, and **deployment models**. See the “NIST Definition of Cloud Computing, version 15”, by Peter Mell and Tim Grance, 10-07-09.

44 See, ZenithOptiMedia, July 2009, “Global advertising downturn slows despite disappointing Q1. Mild global recovery in 2010; all regions to return to growth in 2011”, www.zenithoptimedia.com/gff/pdf/Adspend%20forecasts%20July%202009.pdf.

45 Google reports that 75% of all Internet users in the United States visit government web sites, 48% have looked online for information about a public policy issue with their local, state or federal government, and 41% have downloaded government forms. From Google’s Government Toolkit, citing eMarketer.

46 See, e.g., www.facebook.com/CNIL; www.facebook.com/pages/Tel-Aviv-Yafo-Israel/ILITA/250200592257; www.state.gov/.

47 See, OECD (2009) *OECD Conference on Empowering E-consumers: Strengthening Consumer Protection in the Internet Economy, Background Report*, OECD, Paris www.oecd.org/dataoecd/42/59/44050135.pdf.

48 See, my.nielsen.com/site/20080414.shtml.

- 49 See, US Census Bureau, EStats, 2010 Annual Service Survey
- 50 See, Flickr Blog, 12 October 2009; <http://blog.flickr.net/en/2009/10/12/4000000000/> The statistic quoted in the report was as of 12 October 2009.
- 51 See, Facebook Press Room: www.facebook.com/press/info.php?statistics The statistic quoted in the report was as of 10 November 2010.
- 52 See, Alessandro Acquisti, "Privacy in Electronic Commerce and the Economics of Immediate Gratification," *Proceedings of ACM Electronic Commerce Conference (EC 04)* (New York, NY: ACM Press, 2004), 21-29, www.heinz.cmu.edu/~acquisti/papers/privacy-gratification.pdf. See also, OECD (2010) *Consumer Policy ToolKit*, OECD, Paris.
- 53 See, Danah Boyd, "Social Network Sites: Public, Private, or What?" Knowledge Tree 13 <http://kt.flexiblelearning.net.au/tkt2007/>.
- 54 See, www.cisco.com/en/US/solutions/collateral/ns170/ns896/ns895/white_paper_c11-499060.pdf for a study of data leakage and employee behaviours in 10 countries. See also, www.priv.gc.ca/information/ar/200809/2008_pipeda_e.cfm.
- 55 See, "Timeline: Child Benefits Records Loss", BBC News; 25 June, 2008, <http://news.bbc.co.uk/2/hi/7104368.stm>
- 56 See, www.ponemon.org/local/upload/fckjail/generalcontent/18/file/2008-2009%20US%20Cost%20of%20Data%20Breach%20Report%20Final.pdf.
- 57 Compromised machines are computers that are controlled by one or many outside sources ("botnets" or "bots"). See, OECD (2008/1), *Economics of Malware: Security Decisions, Incentives and Externalities*, OECD, Paris <http://www.oecd.org/dataoecd/53/17/40722462.pdf>
- 58 See, MessageLabs Intelligence: 2010 Annual Security Report, available at www.messagelabs.com/mlireport/MessageLabsIntelligence_2010_Annual_Report_FINAL.pdf
- 59 See, Article 29 Working Party opinion 2/2010 on online behavioural advertising, 22 June 2010.
- 60 See, "Comment of epic.org to The National Institute of Standards and Technology, Smart Grid Standards", 1 December, 2009; http://epic.org/privacy/smartgrid/EPIC_Smart_Grid-Cybersecurity_12-01-09.2.pdf.
- 61 See, the UK Information Commissioner, *A Report on the Surveillance Society*, September 2006, www.ico.gov.uk/upload/documents/library/data_protection/practical_application/surveillance_society_full_report_2006.pdf.
- 62 See, "2007 Electronic Monitoring & Surveillance Survey", conducted by the American Management Association and The ePolicy Institute www.amanet.org/training/articles/The-Latest-on-Workplace-Monitoring-and-Surveillance.aspx#blank.
- 63 See New Zealand Law Commission, www.lawcom.govt.nz/ProjectGeneral.aspx?ProjectID=129.
- 64 See, "A Face Is Exposed for AOL Searcher No. 4417749", www.nytimes.com/2006/08/09/technology/09aol.html ; Latanya Sweeney, Uniqueness of Simple Demographics in the U.S. Population, Laboratory for International Data Privacy Working Paper, LIDAP-WP4 (2000); Arvind Narayanan and Vitaly Shmatikov, How to Break the Anonymity of the Netflix Prize Dataset, 16 October, 2006, <http://arxiv.org/abs/cs/0610105>.

- 65 See, Paul Ohm, “Broken Promises of Privacy: Responding to the Surprising Failure of Anonymisation,” *University of Colorado Law Legal Studies Research Paper No. 09-12*, for a detailed discussion on the limits of anonymisation and the use of it to balance privacy interests with innovation and research. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1450006.
- 66 See, OECD (2009), *The Role of Digital Identity Management in the Internet Economy: A Primer for Policy Makers*, OECD, Paris www.oecd.org/dataoecd/55/48/43091476.pdf.
- 67 See Article 29 Working Party Opinion 1/2010 on the concepts of "controller" and "processor", 16 February 2010
- 68 See, Privacy Commissioner of Canada *Report of Findings into the Complaint filed by the Canadian Internet Policy and Public Interest Clinic (CIPPIC) against Facebook Inc. Under the Personal Information Protection and Electronic Documents Act*, 15 July 2009; http://www.priv.gc.ca/cf-dc/2009/2009_008_0716_e.cfm.
- 69 See, OECD (2010), *Consumer Policy Toolkit*, OECD, Paris
- 70 Many non-OECD countries’ privacy legislation contain restrictions on transborder transfers of personal information. Some examples include Senegal, Malaysia, Argentina.
- 71 See, http://ec.europa.eu/justice/policies/privacy/docs/wpdocs/2009/wp168_en.pdf.
- 72 See, OECD (2006), *Report on the Cross-Border Enforcement of Privacy Laws*, OECD, Paris [/www.oecd.org/dataoecd/17/43/37558845.pdf](http://www.oecd.org/dataoecd/17/43/37558845.pdf).
- 73 See www.oecd.org/dataoecd/63/28/36494147.pdf.
- 74 See, Adam Warren *et al*, “Privacy Impact Assessments: International experience as a basis for UK Guidance”, *Computer Law & Security Report*, Vol. 24, Issue 3 (2008), pp 233 – 242 www.sciencedirect.com/science?_ob=PublicationURL&_tokey=%23TOC%235915%232008%23999759996%23690573%23FLA%23&_cdi=5915&_pubType=J&_auth=y&_acct=C000049020&_version=1&_urlVersion=0&_userid=946274&md5=ae2c4bce46405355bbbd67da8451e6b5.
- 75 See, www.archives.gov/about/laws/egov-act-section-207.html.
- 76 See, www.assembly.ab.ca/HIARReview/Health_Information_Act.pdf.
- 77 See, http://ec.europa.eu/information_society/policy/rfid/documents/recommendationonrfid2009.pdf.
- 78 *Ibid*, p. 235
- 79 A resolution on Privacy by Design was passed at the 32nd International Data Protection and Privacy Commissioners Conference (27-29 October 2010) in Jerusalem, Israel.
- 80 See, Ann Cavoukian, “Privacy by Design: The 7 Foundational Principles”, www.privacybydesign.ca/background.htm.
- 81 See, OECD, *The Role of Digital Identity Management in the Internet Economy: A Primer for Policy Makers*, OECD, Paris. www.oecd.org/dataoecd/55/48/43091476.pdf. There is, however, the potential to allow for increased tracking and profiling by linking previously separate identities.

- 82 See, *Annual Report to Parliament 2004-2005*, Office of the Privacy Commissioner of Canada www.priv.gc.ca/information/ar/200405/200405_pa_e.cfm.
- 83 See, Paula J. Bruening et al, "Strategic Information Management," Privacy and Security Law Report, Vol. 07, No. 36 (15 Sept 2008), pp. 1361-1363, www.hunton.com/files/tbl_s47Details/FileUpload265/2310/SIM_9.15.08.pdf.
- 84 See, OECD (2002), *Guidelines for the Security of Information Systems and Networks: Towards a Culture of Security*, OECD, Paris www.oecd.org/document/42/0,3343,en_2649_34255_15582250_1_1_1_1,00.html.
- 85 Various examples include layered privacy notices and a privacy "nutrition" label approach. For more information on the latter, see, http://www.cylab.cmu.edu/files/pdfs/tech_reports/CMUCyLab09014.pdf
- 86 For example, the IdM Policy Audit System, a project jointly developed by the Internet Society and the Department of Computer Science at the University of Colorado, with participation by the Electronic Frontier Foundation and the Center for Democracy and Technology. See, www.isoc.org/projects/idm_policy_audit_system/.
- 87 See, "Safe Harbour Overview", Export.gov; www.export.gov/safeharbor/eg_main_018236.asp.
- 88 See, "Working Document: Transfers of personal data to third countries: Applying Article 26 (2) of the EU Data Protection Directive to Binding Corporate Rules for International Data Transfers", Article 29 Data Protection Working Party, adopted 3 June, 2003 http://ec.europa.eu/justice_home/fsj/privacy/docs/wpdocs/2003/wp74_en.pdf.
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- 107 See, www.oecd.org/document/42/0,2340,en_2649_34255_28863271_1_1_1_1,00.html#whatis.
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- 109 See, www.worldlii.org/int/special/privacy/#about.
- 110 See, "Resolution on International Standards of Privacy" 31st International Conference of Data Protection and Privacy Commissioners, 2009
- 111 See, www.privacyconference2005.org/fileadmin/PDF/montreux_declaration_e.pdf.
- 112 See, www.itu.int/wsis/index.html.
- 113 See, www.datenschutz-berlin.de/content/europa-international/international-working-group-on-data-protection-in-telecommunications-iwgdp/.
- 114 See, www.redipd.org/la_red/Historia/index-iden-idphp.php.
- 115 See, www.privacy.gov.au/aboutus/international/appa.
- 116 See, http://ec.europa.eu/justice_home/fsj/privacy/docs/wpdocs/tasks-art-29_en.pdf.
- 117 See, www.privacycommission.be/en/international/conferences/afapdp/.
- 118 See, www.intgovforum.org/cms/.
- 119 The key organisations include: IETF – Internet Engineering Task Force (www.ietf.org/); W3C – World Wide Web Foundation (www.w3.org/); OASIS – Organization for the Advancement of Structured Information Standards (www.oasis-open.org/); OpenID Foundation (<http://openid.net/foundation/>); Information Card Foundation (<http://informationcard.net/>); Kantara Initiative (<http://kantarainitiative.org/>).

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Under Recommendations, the Guidelines state, “That Member countries endeavour to remove, or avoid creating, in the name of privacy protection, unjustified obstacles to transborder flows of personal data.”