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National Telecommunications and Information Administration
U.S. Department of Commerce
1401 Constitution Avenue, NW
Room 4725
Washington, D.C. 20230

Re: Docket No. 100402174-0175-01
*Submitted online to: privacy-noi-2010@ntia.doc.gov*

Dear Sirs and Madams:

IBM is pleased to respond to the Commerce Department's Notice of Inquiry on Information Privacy and Innovation in the Internet Economy. We commend the Department for seeking a wide range of views on this rapidly-evolving and important set of issues.

We welcome discussion -- and could provide input on -- many of the topics included in the Notice. However, for brevity and focus these comments directly address a few key topics: the importance of privacy issues to contemporary economic growth and progress; the value of strong international engagement by the Department of Commerce on these issues; and the importance and increasing sophistication of privacy by design and practice, and how government can appropriately support it. We have also indicated support for the separate response filed by the Centre for Information Policy Leadership.

Our comments and perspective are necessarily informed by IBM's own experience in business, technology and privacy, so we begin with a description of the company's longstanding engagement in this area.

**IBM's Engagement in Privacy is Comprehensive and Longstanding**

IBM helps organizations become more innovative, efficient and competitive through the use of business insight and advanced information technology solutions. Our capabilities include business process and IT services, cloud computing solutions, software, hardware, fundamental research and financing.

Approximately 400,000 IBMers work across the globe, engaging with and helping many thousands of clients, communities, universities and other important constituencies to integrate information technology into virtually all of the globe's key systems -- such as public health, transportation, energy, food supply chains and beyond. We operate as a globally integrated enterprise, which -- key to the subject of the Department's inquiry -- involves the processing of information across national borders in support of research, technology development and deployment, sales, HR and other key functions.

We thus submit these comments from the perspective of a technology and business innovator; a professional services company; a large employer; and a company that depends on the ability to access and use data in markets around the globe.

IBM's response also draws upon our company's longstanding commitment to, and engagement in, information privacy policy and compliance:

- Forty years ago, in the earliest years of computing, IBM worked with Professor Alan Westin of Columbia University to formulate and adopt one of the first, if not the first, organizational privacy policies, governing the entirety of our operations and adjusting over time to support our compliance with the myriad of privacy laws and expectations that exist across the globe.

- In the 1990s, as the Internet emerged as a transformative and widely-accessible platform for computing and innovation, IBM promoted information practices to support transparency and accountability on the Web, becoming one of the first companies to publicly post its privacy practices on its Web site and helping to launch industry trust initiatives such as TRUSTe and BBBOnline.

- In 2000, IBM became one of the first major companies to appoint a senior-level chief privacy officer, and IBMers helped to launch the now 7,000-member International Association of Privacy Professionals. That same year we offered our strong support to the Commerce Department's effort to negotiate the EU-US Privacy Safe Harbor and we became one of the first companies to enroll in the program.

IBM has also supported and informed passage of key privacy laws and guidelines in the United States and elsewhere when, in our belief, direct government regulation was needed to help protect individuals from harm and to help keep organizations accountable for how they handle personal information. For example,

- In the 1980s we supported enactment of the Electronic Communications Privacy Act.

- In the 1990s we supported enactment of the health privacy law HIPAA.

- In 2005 IBM was one of the only corporations who supported enactment of the Genetic Information and Nondiscrimination Act.

- And we were supportive of the 2005 enactment of Privacy Principles by APEC, the Asia-Pacific Economic Cooperation Forum.

IBM's corporate citizenship in privacy and data protection has resulted in external recognition including:

- For the past three years, US consumers have named IBM the IT company Most Trusted for Privacy in the TRUSTe/Ponemon annual survey (in 2010 IBM was #3 overall, and was the only business-to-business brand in the top 10).

- IBM won the 2009 Privacy Innovation Award from the International Association of Privacy Professionals, for innovation in privacy-enabling technology, and in 2007 its chief privacy officer was recognized with the IAPP's Vanguard Award.

**Progress and Economic Growth Depend on Meeting Privacy Expectations**

Today, IBM continues to collaborate with forward-looking governments and private-sector organizations on privacy and data protection policy and practices.

For example, we participate in and support APEC's work to develop a program for accountable global data flows; we support the Galway Accountability Project and as well the aspiration by an influential international group of data protection authorities to enunciate global privacy principles via the Madrid Declaration; and we have shared our experience and views in recent workshops and discussions sponsored by the Commerce Department and the US Federal Trade Commission. Our experts are engaged in leadership and advisory roles in a wide range of private-sector initiatives including informing the work of the Centre for Information Policy Leadership, Center for Democracy and Technology, Center for Strategic and International Studies and Markle Foundation.

Within IBM, we have implemented a comprehensive accountability program to govern the company's collection, use and sharing of personal information. This program comprises all of the elements recommended by the Galway Accountability paper and other leading experts:

- High-level organizational accountability and comprehensive enterprise policies that reflect contemporary values and environment.

- Mechanisms to put such policies into effect, including employee education and a global program (supported by a "smart" online tool) that enables all process and IT application owners to do a privacy risk self-assessment, and that provides the corporate privacy office visibility to process-level actions.

- Regular performance reviews performed by business controls and audit teams.

- Transparency provided by 24/7 visible posting of employee and public-facing privacy policy statements, and a globally-consistent access process for employees and other individuals.

- Redress available to individuals via their inquiry directly to IBM via a dedicated privacy address or IBM's longstanding employee hotline, as well as via TRUSTe.

We are engaged in this fashion -- in external collaborations and comprehensive internal governance -- because IBM recognizes the importance to business of addressing privacy expectations.

As described by the Department's Notice of Inquiry, the development and deployment of information technology have enabled people and organizations to realize a wide range of benefits. As important elements of our infrastructure have become (and are becoming) more instrumented, interconnected, and intelligent, so too has our society realized measurable economic benefit.[1] The emergence of cloud computing as a more flexible and efficient model for delivering computing is a significant development.

With nearly 2 billion people on the Internet (and counting), and with more and more of the world's systems becoming digitally aware, there is greater diversity of the forms and shapes data is taking – transactions of every kind, rich media, social media.[2] Already, 30 percent of the data in the world consists of medical images.[3] With more planet-wide sensors than ever – a billion transistors for every human – ever more data is being generated and at far greater speeds.[4]

Data, coupled with analytics, can do very positive things for individuals and for society. Childhood cancer is a relevant case study: fatality rates have declined more than 50% in just a generation, in part due to high participation in clinical trials (67% of children, vs. 5% of adults) and accompanying data analytics that accelerated development of effective

[1] Robert D. Atkinson & Andrew S. McKay, *Information Technology & Innovation Foundation, Digital Prosperity: Understanding the Economic Benefits of the Information Technology Revolution* at 11-14 (March 2007) ("[T]here is a now a strong consensus among economists that the IT revolution was and continues to be responsible for the lion's share of the post '95 rebound in productivity growth.").

[2] September 30, 2009, http://www.internetworldstats.com/stats.htm

[3] January 12, 2010, http://www.ibm.com/smarterplanet/us/en/events/sustainable_development/12jan2010/index.html?ca=v_sustainabledevelopment

[4] ftp://ftp.software.ibm.com/common/ssi/sa/wh/n/oiw03021usen/OIW03021USEN.PDF

treatment.[5] Childhood cancer 5-year survival rates are now approximately 80%, versus the near-death sentence such cancers posed 30 years ago.[6]

Experts at IBM[7] believe that other significant progress in the next several decades – in business, science and society at large – will come from insights gleaned through real-time analysis of data (or, "smarter data"). We are just beginning to realize these possibilities.

- Through smarter data, we can make sense of information in all its forms – structured and unstructured, text and multi-media, personal and non-personal data, from physical infrastructures to social networks. For instance, a European railway has been able to weigh 56,000 variables – including the railroad's rolling stock, changing weather patterns and passenger demand – to assemble and schedule more than 5,000 passenger trains per day, improving operating efficiency by 6% with an estimated annual savings of 20 million euros.

- Through smarter data, we can also see how one piece of information relates to the things around it. Any data point, by itself, is just about useless. But when one analyzes it in context and in real time, one can make better predictions -- like a Spanish oil and gas company that is using predictive analytics to parse large volumes of seismic data, boosting the success rate of its exploratory efforts.

- Smarter data delivered in real time via new computational models like stream computing lets us keep pace with a world where risk and opportunity are constantly in flux. Rather than relying on snapshots of the past, our decisions can be real-time, fact-based projections of a likely future. This is what a Canadian hospital treating high-risk newborns is doing, as its doctors use patterns within an array of physiological data to detect life-threatening infections up to 24 hours sooner.

Technology advances historically have enabled industry and government leaders to unlock value in new business models and applied innovations. As they do so, security and privacy tend to follow as issues to be addressed: How to secure newly-valuable information or other assets or operations; who gets to see which information and under what conditions. How our society answers these questions, juxtaposed against robust and accountable data uses, will in significant ways influence future economic growth.

[5]Simone & Lyons, Superior Cancer Survival in Children versus Adults, Huntsman Cancer Institute http://www.iom.edu/~/media/Files/Activity%20Files/Disease/NCPF/Manuscript.ashx

[6] National Cancer Institute Fact Sheet, http://www.cancer.gov/cancertopics/factsheet/Sites-Types/childhood

[7] References available from IBM, http://www.ibm.com/smarterplanet/us/en/business_analytics/ideas/index.html?re=spf

**International Privacy Engagement by the United States Is Key**

In a globally-connected Internet economy, cross-border data flows and access will become a necessary enabler of economic growth and productivity. Current statutory regimes in Europe and several other countries were conceived in the early days of computing and today impose significant procedural hurdles to such cross-border data flows. For some smaller organizations they may pose a more significant impediment.

It is to be expected that governments, cultures and organizations will vary in their approach to information privacy. But since information flows enabled by the Internet and other networks are now instant and global, some types of cross-border data flows that are supported by inter-governmental cooperation -- similar to the EU-US Safe Harbor model, potentially -- are needed in order to promote organizational transparency and accountability while enabling efficient operations.[8] In other words, data should be free to move across borders and organizations, so long as there are accountable processes in place to promote compliance with the policies that apply to such data at the point at which it was collected or created.

It is therefore important for leading government institutions to be part of multi-party global discussions on data protection and international data flows, with a focus on enforcement coordination. The Department of Commerce has had a longstanding role in such discussions, and should continue and strengthen its involvement.

Particularly important is the APEC cross-border data flow initiative that is currently underway and in which IBM is pleased to participate in the pilot program involving several companies. The Department is in an ideal position to press for completion and launch in 2011, when the United States is the host country of APEC, of a "globally certified" program for organizations that have met certain criteria. Such a program, much like the EU-US Safe Harbor, would allow for companies to access data across borders, so long as they remain accountable for such data.

A broader set of sustained international dialogues on information privacy and data flows is also important, as these issues will require continued exploration and updating of norms, laws and practices in light of rapid change occurring in business and technology. These dialogues optimally will involve multiple representatives of government (privacy regulators, economic ministries, law enforcement and national security), industry and

[8] As stated by the Chairman and CEO of IBM,

> A company's standards of governance, transparency, privacy, security and quality need to be maintained even when its products and operations are handled by a dozen organizations in as many countries. A reliance on hierarchies contained within one function, enterprise or nation must be supplemented by new ways of establishing trust, based on shared values that cross borders and formal organizations.
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> - Samuel J. Palmisano, "The Globally Integrated Enterprise," *Foreign Affairs*, May 2006.

civil society. The Department of Commerce, along with other agencies of the United States government, should actively participate in these dialogues.

**Promoting Privacy by Design Should be a Goal**

Privacy by Design (PbD) is an important concept that can be part of a comprehensive approach to supporting privacy in an environment of technological change and information-intensive innovation. IBM believes that PbD is accomplished at several levels (technology, process and products/services):

- Core technologies can protect privacy if they are developed and deployed (e.g. homomorphic encryption, which allows for manipulation of securely encrypted personal information without viewing of the actual data, thereby allowing for value to be derived from data in a privacy-friendly way).

- Key technologies can be designed to enable privacy (e.g. privacy-sensitive identity management).

- Organizational processes can be designed and implemented in such a way as to handle information, with discipline and accountability, in ways that comply with the privacy policies that apply to that information. For example, IBM has a global privacy assessment process and supporting tools, supported by oversight and consultation from the corporate privacy office and by independent review/auditing by internal and external audit and controls teams.

- Products and consumer-facing services can be configured to be privacy-enabling/friendly, albeit with some limitations given the limitations of notice/consent.

Governments can support and encourage Privacy by Design by:

- Supporting research into the development of Privacy by Design core and key technologies, such as the previously mentioned homomorphic encryption, as a means of promoting and supporting innovation in this area.

- Leading by example, by deploying (and procuring) privacy-enabling processes and technologies to the degree possible, consistent with mission.

- Following the principle of technology neutrality and openness in establishing policies that support Privacy by Design.

**Conclusion**

While the emergence of an information-and-intelligence-infused global commons -- what IBM calls a smarter planet -- offers enormous hope for societal progress in health care, transportation, energy and other important spheres, its promise will only be realized if we address the important issues of privacy and security. In that spirit, IBM appreciates the

opportunity to provide this response to the Notice of Inquiry, and we look forward to further collaboration with the Commerce Department and others on these important issues.

Sincerely,

Harriet P. Pearson
Vice President, Security Counsel & Chief Privacy Officer
IBM Corporation