United Nations
International Training Seminar
High Level Training Seminars
Seminar 6:

E-Government: The New Regulatory Paradigm

Prof. Lance J. Hoffman
Computer Science Department
The George Washington University
Washington DC 20052 USA
202 994-4955
hoffman@seas.gwu.edu
Government regulation responsibilities

- Regulating E-Commerce
- Maintaining citizen privacy rights
  - Balancing anonymity vs. accountability
- Managing intellectual property regime
  - Guaranteeing freedom of speech
- Facilitating computer system security
- Protecting critical infrastructure
- Recognize limits of regulation while …
- Developing consistent regulatory framework that can be harmonized with other governments’
Government responsibilities

Regulating E-commerce
E-Commerce Issues

- Product Restrictions
  - Tobacco
  - What can be sold to children
  - Acceptable food products
  - Pharmaceuticals
  - Alcoholic beverages
  - Financial services
  - Textile and Wool Products

- Taxation control (customs, sales taxes, double taxation, VAT)

- Societal values
  - Language requirements (e.g., use French)
  - Accessibility standards ([www.w3.org/wai](http://www.w3.org/wai)) [10-20%]
Some possibly fraudulent e-commerce schemes

- Pyramid Schemes
- “Miracle” health and diet products
- Gambling and International Lottery
- Investment, Credit and securities scams
- Online Auctions
- Erotic Services
Government responsibilities

Maintaining citizen privacy rights
Different meanings in different cultures

Users (consumers) want anonymity and benefits (convenience, efficiency) but may have to balance these.

PRIVACY (DATA PROTECTION) COMMISSIONERS AND REGULATION WORLDWIDE

- 23 countries have data protection (privacy) commissioners
  - (See Canadian Privacy Commissioner’s Annual Report at http://www.privcom.gc.ca/english/02_04_08_e.htm)

- European Union Data Directive has regulations:
  - No secondary use of data without an individual’s informed consent
  - No transfer of data to non-EU countries unless there is adequate privacy protection (see, for example, www.export.gov/safeharbor)

- US still has no central regulation with respect to privacy.
  **Sectoral regulation in U. S.:**

<table>
<thead>
<tr>
<th></th>
<th>Notice/Awareness</th>
<th>Choice/Consent</th>
<th>Access/Participation</th>
<th>Integrity/Security</th>
<th>Enforcement/Redress</th>
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<tbody>
<tr>
<td>Financial services</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Health</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Online profiling</td>
<td>Yes</td>
<td>Opt-out</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wireless</td>
<td>Proposed</td>
<td>Proposed</td>
<td></td>
<td>Proposed</td>
<td>Proposed</td>
</tr>
</tbody>
</table>

(John McCarthy, Forrester, Dec. 2000)
EXAMPLES WHERE BUSINESS HAS INVADED PRIVACY

- Unsolicited e-mail (spam):
- Online advertising agency monitored surfing of net users (DoubleClick)
- Attempted fire sales of user data, reneging on past promises (Toysmart.com)
**Tuesday August 3, 1999**

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Stop Time</th>
<th>Time Duration</th>
<th>Action Type</th>
<th>Location Name</th>
<th>Mileage</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:48PM</td>
<td>6:48PM</td>
<td>00:00</td>
<td>Power</td>
<td>Power On</td>
<td>0.00</td>
</tr>
<tr>
<td>6:48PM</td>
<td>6:48PM</td>
<td>00:00</td>
<td>Begin</td>
<td>Begin: L- Your House</td>
<td>0.00</td>
</tr>
<tr>
<td>6:48PM</td>
<td>7:16PM</td>
<td>00:28</td>
<td>In Transit</td>
<td>In Transit</td>
<td>23.47</td>
</tr>
<tr>
<td>7:16PM</td>
<td>8:57PM</td>
<td>01:41</td>
<td>Stop</td>
<td>L- Restaurant</td>
<td>0.00</td>
</tr>
<tr>
<td>8:57PM</td>
<td>9:08PM</td>
<td>00:11</td>
<td>In Transit</td>
<td>In Transit</td>
<td>8.62</td>
</tr>
<tr>
<td>9:08PM</td>
<td>10:51PM</td>
<td>01:43</td>
<td>Stop</td>
<td>L- Friends House</td>
<td>0.00</td>
</tr>
<tr>
<td>10:51PM</td>
<td>11:07PM</td>
<td>00:16</td>
<td>In Transit</td>
<td>In Transit</td>
<td>10.24</td>
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<tr>
<td>11:07PM</td>
<td>11:16PM</td>
<td>00:09</td>
<td>Stop</td>
<td>L- Quick Stop</td>
<td>0.00</td>
</tr>
<tr>
<td>11:16PM</td>
<td>11:45PM</td>
<td>00:32</td>
<td>In Transit</td>
<td>In Transit</td>
<td>30.95</td>
</tr>
<tr>
<td>11:48PM</td>
<td>1:04AM</td>
<td>01:16</td>
<td>Stop</td>
<td>L- Local Bar</td>
<td>0.00</td>
</tr>
<tr>
<td>1:04AM</td>
<td>1:51AM</td>
<td>00:47</td>
<td>In Transit</td>
<td>In Transit</td>
<td>28.70</td>
</tr>
<tr>
<td>1:51AM</td>
<td>4:44AM</td>
<td>02:33</td>
<td>Stop</td>
<td>L-Pool Hall</td>
<td>0.00</td>
</tr>
<tr>
<td>4:44AM</td>
<td>5:32AM</td>
<td>00:48</td>
<td>In Transit</td>
<td>In Transit</td>
<td>47.95</td>
</tr>
<tr>
<td>5:32AM</td>
<td>7:53AM</td>
<td>02:21</td>
<td>Stop</td>
<td>L-Friends House</td>
<td>0.00</td>
</tr>
<tr>
<td>7:53AM</td>
<td>8:12AM</td>
<td>00:19</td>
<td>In Transit</td>
<td>In Transit</td>
<td>17.85</td>
</tr>
<tr>
<td>8:12AM</td>
<td>8:12AM</td>
<td>00:00</td>
<td>End</td>
<td>End: L- Your House</td>
<td>0.00</td>
</tr>
<tr>
<td>8:12AM</td>
<td>8:12AM</td>
<td>00:00</td>
<td>Power</td>
<td>Power Off</td>
<td>0.00</td>
</tr>
</tbody>
</table>
# SURVEILLANCE BY PRIVATE SECTOR

## FIND OUT ABOUT:

Ron Keohane

Enter Approximate Age (if Known)

Conduct a Search on Someone Else!

## HERE'S WHAT YOU GET:

<table>
<thead>
<tr>
<th>Deluxe Search</th>
<th>Super Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>$19.95</td>
<td>$39.95</td>
</tr>
</tbody>
</table>

- Current and previous addresses going back 10 years
- Any additional phone numbers available
- Family members of individual
- Other people at the same address
- Neighbors with listed phone numbers
- Spouses (if individual currently lives in Florida or Texas)
SURVEILLANCE BY PRIVATE SECTOR

Door to Door Directions

From: 1600 Pennsylvania Ave. NW, Washington, DC
To: [Redacted]

<table>
<thead>
<tr>
<th>Direction</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Start out going East by turning left.</td>
<td>0.1</td>
</tr>
<tr>
<td>2: Turn SLIGHT LEFT onto ALEXANDER HAMILTON PL NW.</td>
<td>0.1</td>
</tr>
<tr>
<td>3: Turn RIGHT onto 15TH ST NW.</td>
<td>0.1</td>
</tr>
<tr>
<td>4: Turn LEFT onto PENNSYLVANIA AVE NW.</td>
<td>0.1</td>
</tr>
<tr>
<td>5: Turn RIGHT onto 14TH ST NW.</td>
<td>0.2</td>
</tr>
<tr>
<td>6: 14TH ST NW becomes 14TH ST NW/US-1.</td>
<td>0.6</td>
</tr>
<tr>
<td>7: 14TH ST NW/US-1 becomes US-1 S.</td>
<td>0.5</td>
</tr>
<tr>
<td>8: US-1 S becomes US-1 S/I-395 S.</td>
<td>0.9</td>
</tr>
<tr>
<td>9: Stay straight to go onto I-395 S.</td>
<td>0.5</td>
</tr>
</tbody>
</table>
GOVERNMENT SURVEILLANCE

see www.qn.apc.org/duncan/stoa_cover.htm and www.cfp2000.org
GOVERNMENT SURVEILLANCE
Carnivore: Net-tapping by FBI, 2000

Official FBI figure from http://www.fbi.gov/programs/carnivore/carnlrgmap.htm
Not a new idea: Jeremy Bentham argued for control by surveillance in 1791 in his design of the PANOPTICON, where every person in a building is watched from a central tower.
Government Surveillance

- When to allow monitoring?
- What safeguards to prevent abuse?
Generic Code of Fair Information Practices

This formulation of a code of fair information practices is derived from several sources, including codes developed by the Department of Health, Education, and Welfare (1973); Organization for Economic Cooperation and Development (1981); and Council of Europe (1981).

1. Openness
   no secret databanks on individuals

2. Data subject view and correction
   right to see and correct data on self

3. Collection Limitation
   limited data collection by lawful means and, where appropriate, with knowledge or consent of data subject

4. Data Quality
   only relevant, accurate, complete, and timely data

5. Finality
   limits to the uses and disclosure of personal data, used only for purposes specified at time of collection, unless data subject or appropriate authority allows

6. Security
   reasonable security safeguards against such risks as loss, unauthorized access, destruction, use, modification or disclosure

7. Accountability
   record keepers accountable for complying with fair information practices

See http://www.cdt.org/privacy/guide/basic/generic.html for more detail.
Government responsibilities

Managing Intellectual Property Regime
Is “Copy” Still the Right Concept?

- Should access to data be controlled? Start from the basics: progress via incentive. Does a use impact incentive? Why did the current intellectual property regime come about? Is it still useful? What can be done to have it work in the digital age?

- Can access to digital information be controlled?
  - Points to descrambling algorithm (in violation of 17 USC 1201(a)(2) ?), code on T-shirt, software code, Power Point slides on Content Scrambling System (CSS), algorithm in haiku by an anonymous poet
  - DVD/DeCSS FAQ from the Motion Picture Association of America point of view is at [http://www.mpaa.org/Press](http://www.mpaa.org/Press)

- Good references on the current intellectual property regime:
Napster file sharing

Napster v2.0 BETA 9

File List:
- Britney Spears - "I'm Not A Girl, Not Yet A Woman"
- Britney Spears - "Oops... I Did It Again"
- Britney Spears - "Stronger"
- Britney Spears - "Lucky"

Outbound Transfers:
- "Oops... I Did It Again" by Britney Spears
  - File Size: 2,341,926 bytes
  - User: "britney spears"
  - Status: Completed
  - Speed: 10 KB/s
  - Time Elapsed: 01:03:12

Inbound Transfers:
- "I'm Not A Girl, Not Yet A Woman" by Britney Spears
  - File Size: 1,864,384 bytes
  - User: "britney spears"
  - Status: Downloading
  - Speed: 12 KB/s
  - Time Elapsed: 01:02:09

Napster file sharing

Shop for music at CONOW
Napster, Jefferson’s Moose, and the Law of Cyberspace

David G. Post, June 8, 2000
www.temple.edu/lawschool/dpost/Napster.html

- But that takes property created *here* and brings it *there*. Is that sharing or smuggling?
- Does copyright law protect this? Should it? Who decides? Why?
- Is Cyberspace a *new* place? Is there a *here* and a *there*?
- Jefferson would not ask if Napster infringes Sec. 512 of US Copyright Act, but whether and how it opens new possibilities.
Peer-to-Peer Won’t Go Away!
This is NOT Napster:

• How about Napsters for
  • poetry?
  • Real estate listings?
  • Articles about law and cyberspace?
  • Government efficiency and effectiveness tips?
  • information about genetic sequences
  • making up the human genome?

“Despite Napster's demise, P2P's legal struggle lives on -- certain to battle RIAA further in the coming months, as the industry continues to wage a war to cripple the technology it cannot control and attempts to wrestle music distribution away from the people at the expense of freedom of speech and innovation.” – Robin Gross, EFF Staff Attorney, March 5, 2001, http://www.eff.org/effector/HTML/effect14.04.html

• Publius, a censorship resistant, tamper evident, WWW-based publishing system, already exists (see www.cs.nyu.edu/~waldman/publius.html).
• Each server can’t tell type of content it is hosting, and any modification can be detected.
Recommendations for Policymakers

National Research Council, The Digital Dilemma: Intellectual Property in the Information Age,
http://books.nap.edu/html/digital_dilemma/

- Aim for technology independence
- Keep it simple
- Keep it flexible
- Keep cool
Freedom of speech

Content control and access

- When is speech “chilled”? 
- Traditional areas of controversial or forbidden speech
  - Sedition
  - Pornography
- Censorship vs. User Choice
  - Communications Decency Act and relatives
  - German anti-Nazi provisions
  - French terroristic provision
  - Technological disclosure controls
- Commercial speech and advertising get same protections? Spam?
TRUST ME, I WILL TAKE YOU OFF THE SPAM LIST

Some statements do not inspire a lot of confidence.

- See www.junkbusters.com for anti-spam tools.
- Monitor www.cdt.org and www.epic.org or more information on (U.S.) legislation.
- And what about wireless and location-based spam?
HATE SPEECH SITES

White Aryan Resistance

Racist Cartoons

- Nigger
- Whigger
- Nigger Defendant
- Sink The Boat
- Aryan Might
- Don't Get Screwed
- Agitate
- Too much Black Crime
- Tinted Windows

- Spic
- Heterophobes
- Bad Jew
- NiggerBall
- Proud Aryan
- Allen meet Negro
- Who is behind this?
- Giddy Up Jewboy
- Jews Bug Me

- Jew
- Anti-Government
- What's On the Mind
- America On A Platter
- We're Surrounded
- American Dream
- Who writes this stuff?
- Fight Back

P. O. BOX 65
Fallbrook, CA 92028
(760) 725-9906
# TECHNOLOGICAL DISCLOSURE CONTROLS

**PICS**: Platform for Internet Content Selection

**RSACi Content Advisory Levels**

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>LEVEL</th>
<th>LEVEL</th>
<th>LEVEL</th>
<th>LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

## VIOLENCE: content may include
- **LEVEL 0**: Harmless conflict: some damage to objects
- **LEVEL 1**: Creatures injured or killed; damage to objects; fighting
- **LEVEL 2**: Humans injured or killed with small amt of blood
- **LEVEL 3**: Humans injured or killed; blood and gore
- **LEVEL 4**: Wanton and gratuitous violence; torture; rape

## NUDITY: content may include
- **LEVEL 0**: No nudity or revealing attire
- **LEVEL 1**: Revealing attire
- **LEVEL 2**: Partial nudity
- **LEVEL 3**: Non-sexual frontal nudity
- **LEVEL 4**: Provocative frontal nudity

## SEX: content may include
- **LEVEL 0**: Romance; no sex
- **LEVEL 1**: Passionate kissing
- **LEVEL 2**: Clothed sexual touching
- **LEVEL 3**: Non-explicit sexual activity
- **LEVEL 4**: Explicit sexual activity; sex crimes

## LANGUAGE: content may include
- **LEVEL 0**: Inoffensive slang; no profanity
- **LEVEL 1**: Mild expletives
- **LEVEL 2**: Expletives; non-sexual anatomical references
- **LEVEL 3**: Strong, vulgar, or hate language; obscene gestures
- **LEVEL 4**: Crude, explicit sexual references; extreme hate language

RDF: Resource Description Framework; P3P: based on RDF

More info at [http://www.w3.org/? where ?=PICS, RDF, or P3P](http://www.w3.org/? where ?=PICS, RDF, or P3P)
P3P informs Web surfers
(will be in Microsoft Internet Explorer 6.0)

A privacy check has been performed to compare your personal privacy settings and the corresponding privacy rules to the privacy policy of the web site you are currently visiting.

View policy: [http://www.att.com](http://www.att.com)

- This site does allow you to remove yourself from marketing/mailing lists.
- This site does allow you to find out what data they have about you.

Legend: 🎈 Privacy OK 🙁 Privacy policy unknown 🙁 Privacy violation

From World Wide Web Consortium, [http://www.w3.org/P3P/p3p-interop-report-20000621.html](http://www.w3.org/P3P/p3p-interop-report-20000621.html)
Government responsibilities

Facilitating Computer System Security
Security Controls Should Maintain CIA (Confidentiality, Integrity, Availability)
SOME TYPICAL SECURITY MECHANISMS

- Authentication
  - Something you know (examples: password, encryption key)
  - Something you have (examples: token, capability)
  - Something you are (picture, fingerprint)

- Cryptography (Example [very simple]: lwdoa → ?)
  - Traditional, single key (DES, PGP, AES)
  - Public key (two keys, public and private: RSA)
    - Digital signatures

- Risk Analysis
  - Expected value
  - Worst case
  - Insurance
Security Controls Should Maintain CIA (Confidentiality, Integrity, Availability)

SOME TYPICAL SECURITY MECHANISMS

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    - Digital signatures
- Risk Analysis
  - Expected value
  - Worst case
  - Insurance
Internet Worm (Nov 1988) shut down 6,000 machines

MALWARE GENERATORS

Love Bug (May 2000) infected 15,000,000 machines
Zapatistas revolutionary website

Ejército Zapatista de Liberación Nacional
Año 10 de la lucha y retorno de la guerra contra el olvido y la memoria

Contenidos

Comunicados
Última revisión: 03/04/2001

Noticias
Última revisión: 22/nov/2000

Derechos indígenas y los Acuerdos de San Andrés

Municipios autónomos

Mapas y miscelánea

Con el EZLN al DF
En una conferencia de prensa, el 2 de diciembre de 2000, el EZLN dijo que está en proceso de darlos en un campo de la guerrillas de San Andrés, de liberación de todos los presos y el retorno del ejército de los zapatistas que ocupan Chiapas.

Los zapatistas viajan en febrero de 2001 a la capital de México para argumentar en el Congreso de la Unión, la necesidad de reformas constitucionales en materia de derechos y Europa.

Comunicados recientes:
- "Diario 2000: mexicanos ciegos, guestrase por ella" (02/04/2000) español, portugués
- Carta a Víctor Fox (01/4/2000) español, portugués, francés
- Comunicado sobre el posible inicio del diálogo (03/04/2000) español, portugués
Government responsibilities

Protecting Critical Infrastructure
Critical Infrastructure Sectors

(President’s Commission on Critical Infrastructure Protection)

- Information and communications
- Physical distribution
- Energy
- Banking and finance
- Vital human services
Critical Infrastructure Sectors
(President’s Commission on Critical Infrastructure Protection)

- Information and communications
  - Local and long-distance telephone carriers
  - Cellular networks
  - Satellite services
  - Internet
  - Computers used for home, commercial, academic, and government use
- Physical distribution
- Energy
- Banking and finance
- Vital human services
Examples of Attacks

- Information and Communications
  - Distributed Denial of Service attacks on major Internet sites
- Physical
  - Disrupting air traffic control systems
  - Japanese subway system
- Energy
  - Computer access to power grid (service people dial in from home modem)
  - Oil pipelines run through countries (in Middle East) (what if countries are fighting?)
- Banking and Finance
  - Money laundering
  - Malicious code that reroutes money into a specific account
- Vital human services
  - Water disputes
  - Attacks on treatment plants
  - Rerouting emergency (911) calls to locations across country
  - Changes to hospital records
CONTROL MECHANISMS

www.ciao.gov

- **Entitywide security**: Plan for emergencies, create security procedures
- **Access controls** to critical information, systems, and people
- **Segregation of duties**: no single person has control over all essential information or operations
- **Continuity**: have plans to restore service and to not lose critical information
- **Change control and life cycle management**: be able to make changes without significant service interruptions
- **System software controls**: critical software only can be accessed by certain people and their uses should be monitored and logged.

A number of excellent presentations on this are at http://www.ciao.gov/Audit/SummitLibrary/SummitLibrary.htm
Critical Infrastructure Protection: National Plan for Information System Protection

U. S. General Accounting Office Report AIMD-00-90R


- **Prepare and Prevent**
  - 1 Identify Assets and Shared Interdependencies and Address Vulnerabilities
- **Detect and Respond**
  - 2 Detect attacks and unauthorized intrusions
  - 3 Develop robust intelligence and law enforcement capabilities to protect critical infrastructure systems, consistent with the law
  - 4 Share attack warnings and information in a timely manner
  - 5 Create capabilities for response, reconstitution, and recovery
Critical Infrastructure Protection: National Plan for Information System Protection

U. S. General Accounting Office Report AIMD-00-90R

- **Build Strong Foundations**
  6 Enhance research and development to support 1-5
  7 Train adequate numbers of Infosec specialists
  8 Outreach/Awareness of Improved Cybersecurity
  9 Legislation and funding supporting 1-8
  10 “In every step and component of the plan, ensure the full protection of American citizens’ civil liberties, their rights to privacy, and their rights to the protection of proprietary data”
Government responsibilities

Recognizing Limits of Regulation
Example of the Limits of Regulation:
Non-U. S. Crypto Products (Dec 2000)
835 products from 39 countries
491 non-US 379 US crypto companies produce and distribute in 76 countries
Government Responsibilities

From the “Law of the Net” (above) to Developing consistent regulatory framework that can be harmonized with other governments’
Other New Technologies Government Has Dealt With

- Air Traffic Control
  - safety, security, convenience, commerce
- Telephones
  - universal service, interoperability
- Broadcast Television
  - free speech, commercial speech, appropriate content
- Internet
  - all of the above: security, convenience, commerce, universal service, interoperability, free speech, commercial speech, appropriate content

Internet Presents Similar Opportunities to Strike Balance for the Public Interest, and Government has the Responsibility to do this
Advisory Committee on Online Access and Security

The Federal Trade Commission has established an Advisory Committee on Online Access and Security. The purpose of the Advisory Committee is to provide advice and recommendations to the Commission regarding implementation of certain fair information practices by domestic commercial Web sites. In particular, the Advisory Committee will address providing online consumers reasonable access to personal information collected from and about them and maintaining adequate security for that information.

- Public Comments
  - How to Submit a Comment

- Subgroup Option Papers
  - Access Issues
    - Degree of Access, and Terms and Conditions of Access
    - The Entities Covered and the Ability to Correct or Edit the Data
    - Authentication and Technology Issues
      - Options Paper [PDF 101K]
      - Theme Piece
  - Security Issues
    - A Continuum of Security Options

- March 31st Meeting of the Advisory Committee
  - Agenda of the Meeting
  - Federal Register Notice announcing the Meeting (03/16/00) [PDF 117K]

- Preliminary Draft Outlines of Subgroups
  - Access Issues
    - Scope and Categories Subgroup Draft Outline
    - Entities Subgroup Draft Outline [PDF 15K]
  - Scope and Categories Subgroup Draft Outline
  - Entities Subgroup Draft Outline
Three Mistakes About Regulation
Prof. Larry Lessig, Stanford Law School

• “The Net cannot be regulated.”
• “The Net was born without regulation.”
• “The Net is not now being regulated.”

REGULATION
Lessig, L., Code and Other Laws of Cyberspace, Basic Books, 1999
FIVE CHALLENGES FOR REGULATING THE GLOBAL INFORMATION SOCIETY

Prof. Pamela Samuelson
from Chris Marsden, ed., Regulating the Global Information Society, 2000
downloadable from http://www.sims.berkeley.edu/~pam/papers.html

1. Can existing laws and policies be applied, or are new laws or policies needed to regulate Internet conduct?
2. How can reasonable and proportional responses can be formulated when new regulations are needed?
3. How can flexible enough laws be crafted to adapt to rapidly changing circumstances?
4. How can fundamental human values be preserved in the face of economic or technological pressures tending to undermine them?
5. How can governments coordinate in Internet law and policy making so that there is a consistent legal environment on a global basis?