

Internet standards and “Internet governance”: yesterday, today, and tomorrow

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Outline

- My role at IBM
- Internet Society
- What's shaping the Net
- The current policy environment
- Different models for “Internet governance”
- Grid-related policy issues

My Role

Helping explain the Next Generation Internet & On Demand

- to customers
- to reporters
- to IBMers
- to policy makers

Managing NGi team

- working on IETF & GGF standards
- supporting Server Group development and sales
- corporate Internet-related strategy

Supporting Governmental Programs

External Groups

- Chairman of the Board,
Telecommunications Policy Research
Conference
- Industry Strategy Council, Internet2
- Vice President, Policy, Internet Society

ISOC's High-level goals

Ensuring:

- Ability to Connect => preserve end-to-end
- Ability to Speak => oppose censorship
- Ability to Innovate => open standards
- Ability to Share => ensure fair use
- Ability to Choose => foster competition

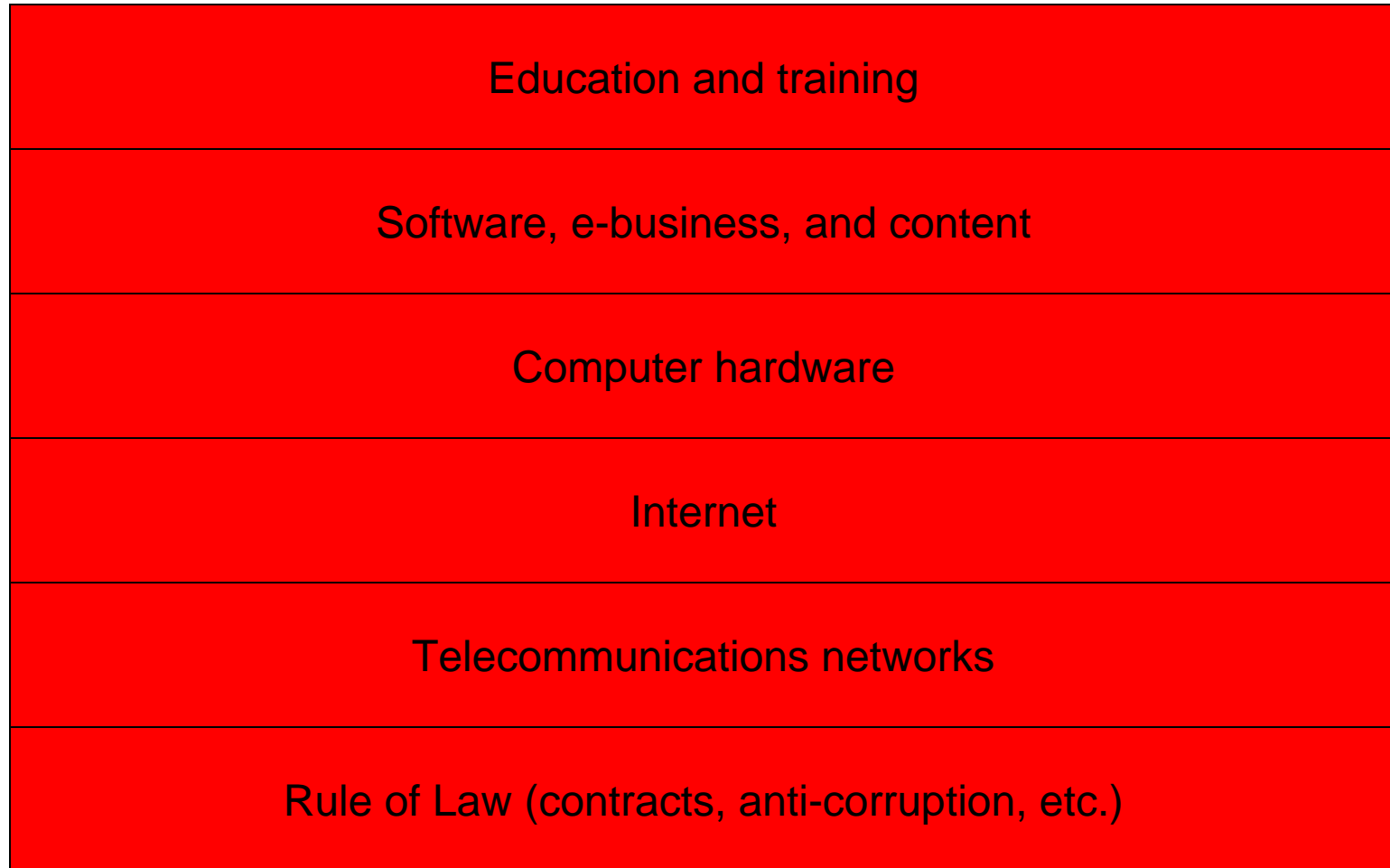
Recent ISOC initiatives

- White papers on Internet governance (www.isoc.org/news)
 - Internet coordination
 - Genius of the Internet
- 14 cyber-surveys
- World Summit on the Information Society
 - Working Group on Internet Governance
 - Letter and meetings with Markus Kummer
 - Several sessions at INET 2004
- World Economic Forum article

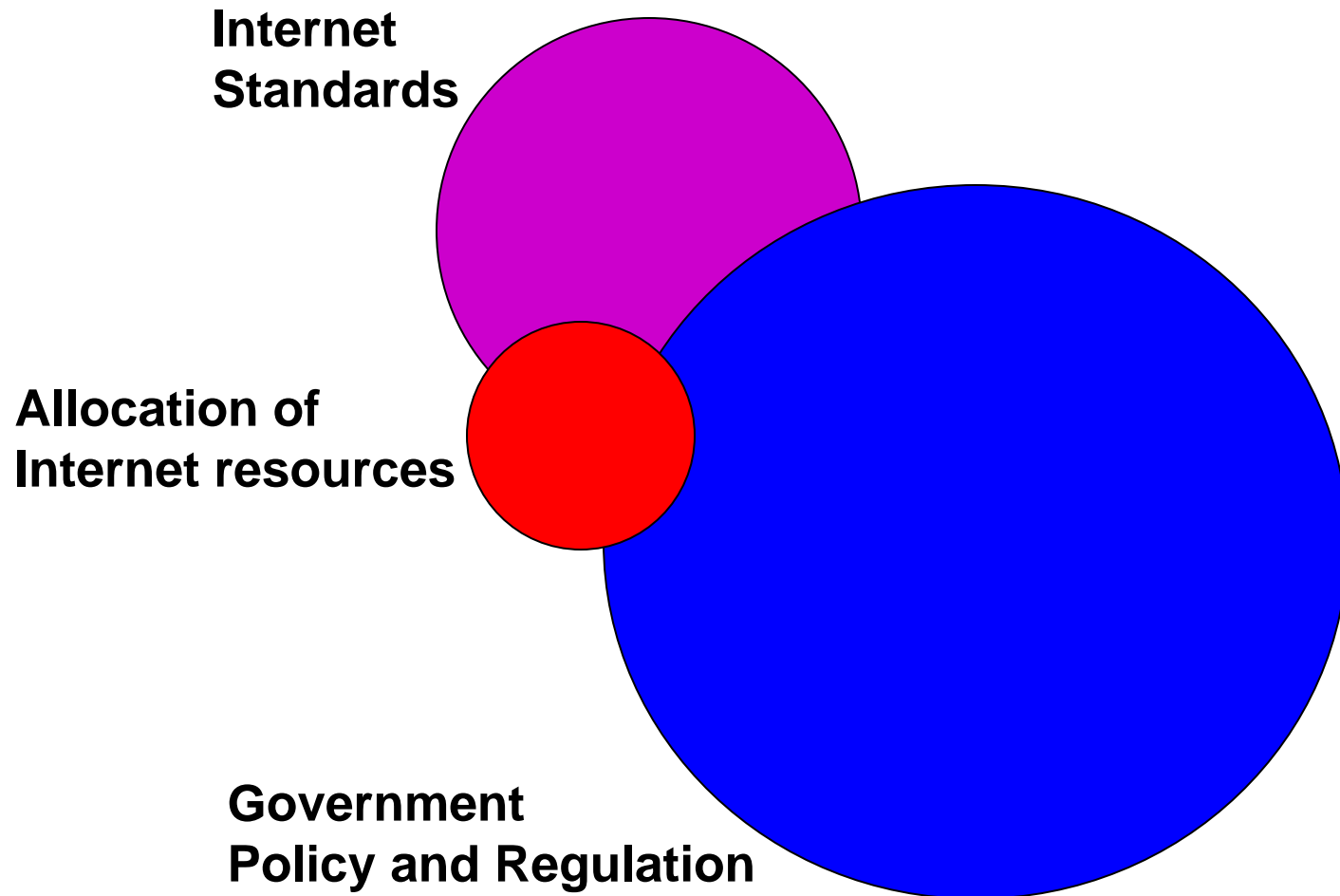
Who “manages” the Internet?

- World Summit on the Information Society
- Governments realizing the power of Net
 - Media
 - E-business
 - Threat to monopoly phone company (VoIP)
 - Political speech
- So they want to regulate or control it
- “Internet governance”

Layers of the Information Society



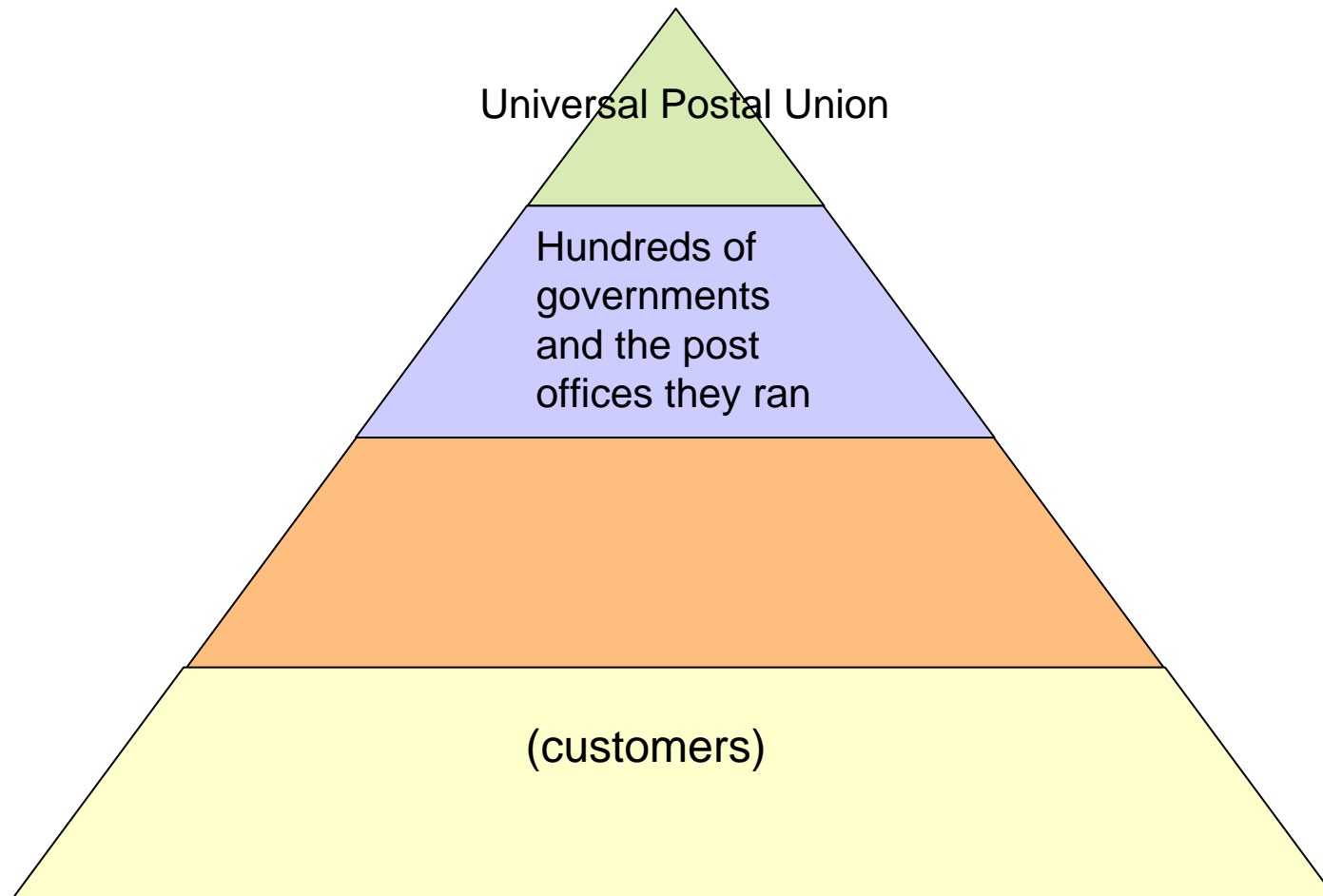
What is shaping the Net?



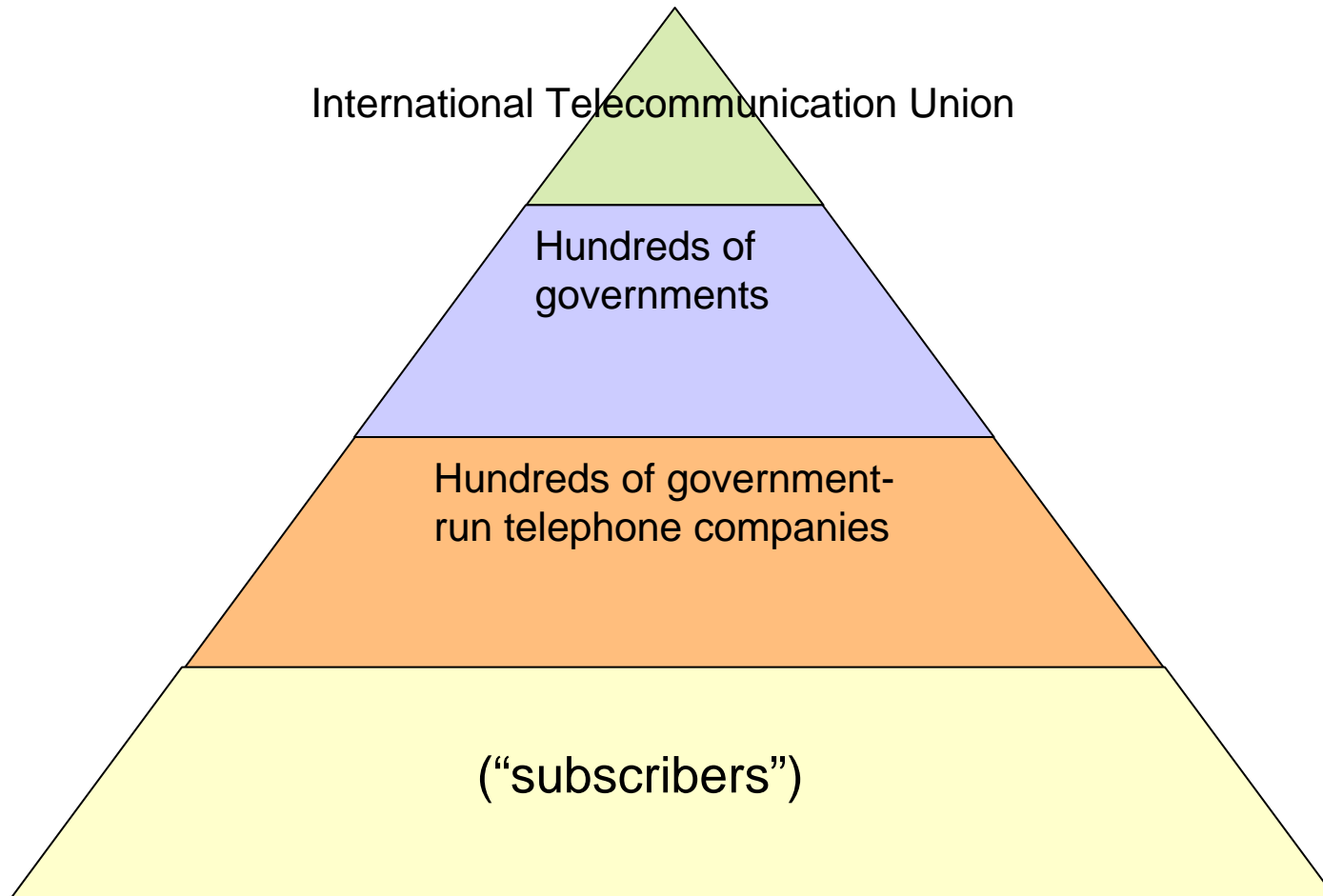
Pressing issues

- VoIP regulation
- Spam and authentication
- Cyber-security
- International Internet pricing (ICAIS) and peering
- World Summit on the Information Society, WSIS
- New networking standards activities
 - ITU-T Next Generation Networks (WTSA in Brazil)
 - Chinese standards strategy
- Censorship
- Wiretapping the Internet
- WiFi, WiMax, “open spectrum”

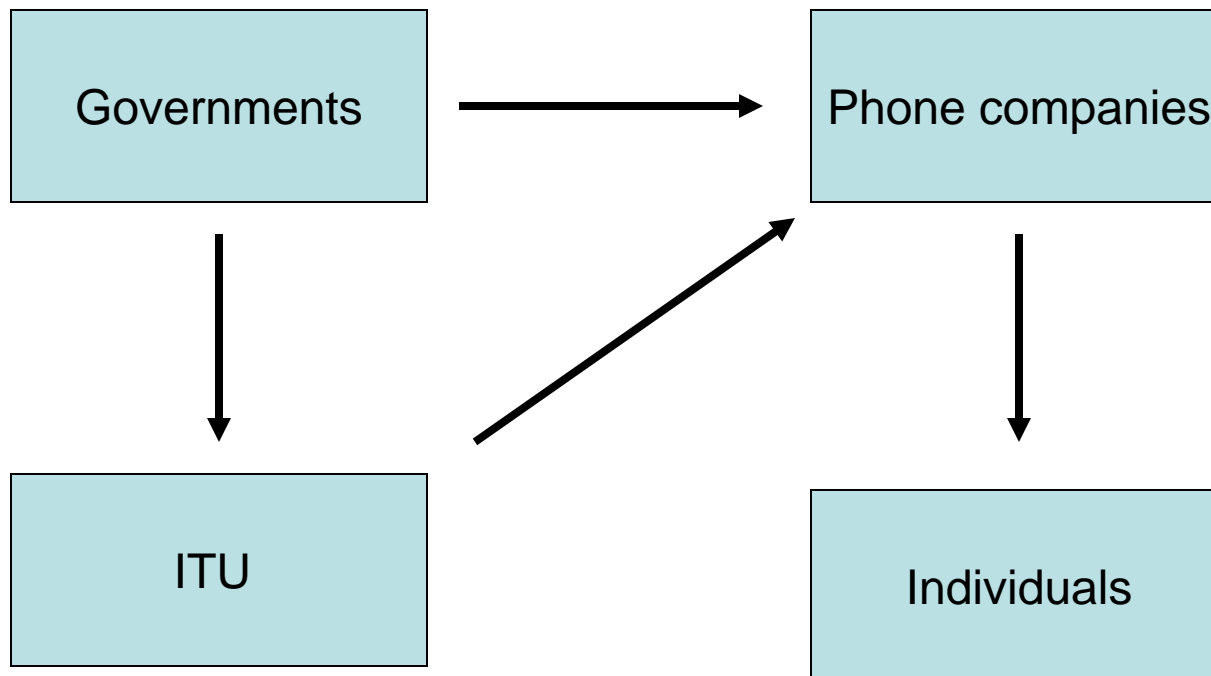
“Mail governance” (1950): Who made choices about postal service?



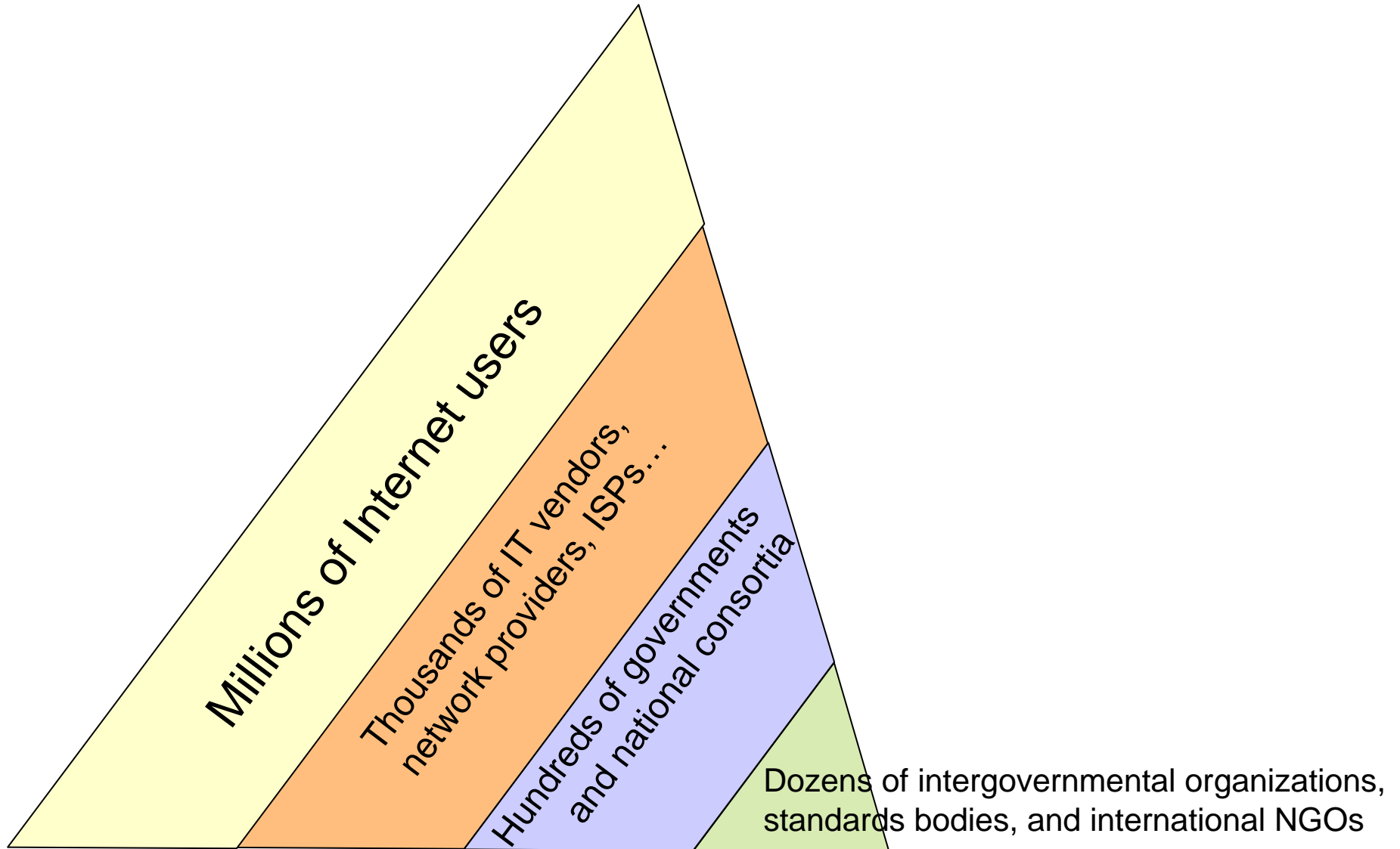
“Phone governance” (1970): Who made choices about phone service?



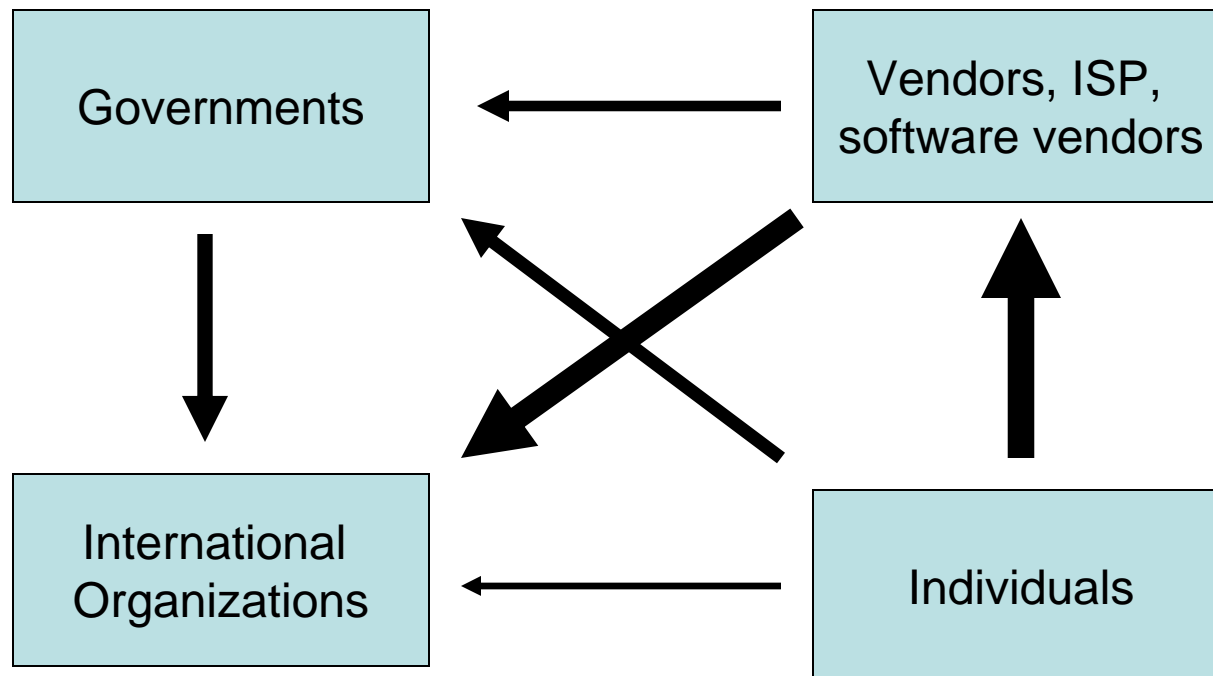
The flow of power



Who makes choices about the Net?



The flow of power



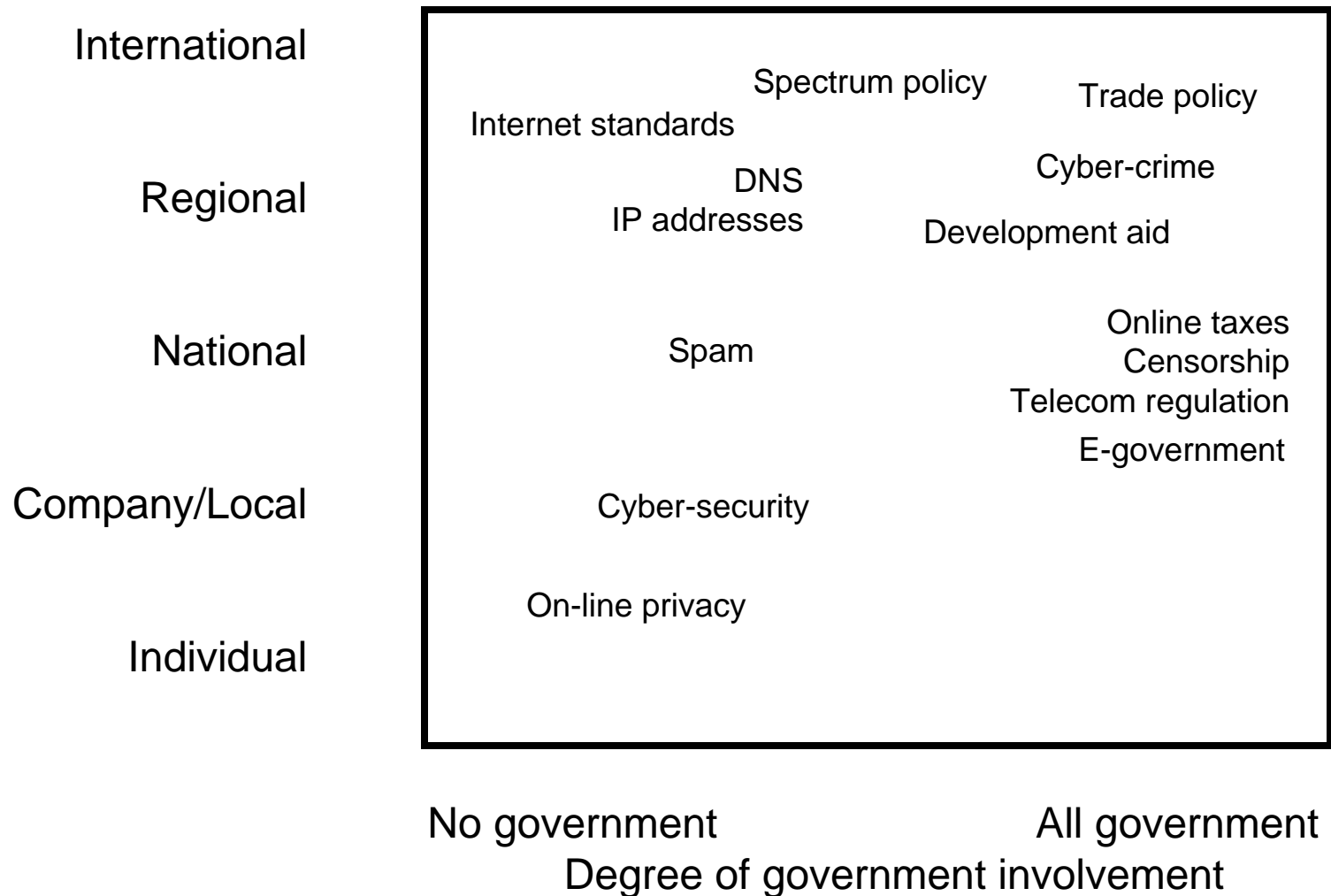
Critical technology choices

- Authentication and directories
- Privacy-enhancing technologies (P3P)
- Digital Rights Management
- Filtering technologies to block spam, porn
- Voice over IP
- Wireless Internet standards
- Web services and Grid computing
- Instant messaging
- IPv6 deployment
- Linking the phone network and the Internet
- Rich media standards (SIP, multicast, etc.)
- End-to-end vs. walled gardens

Tech answers to policy problems

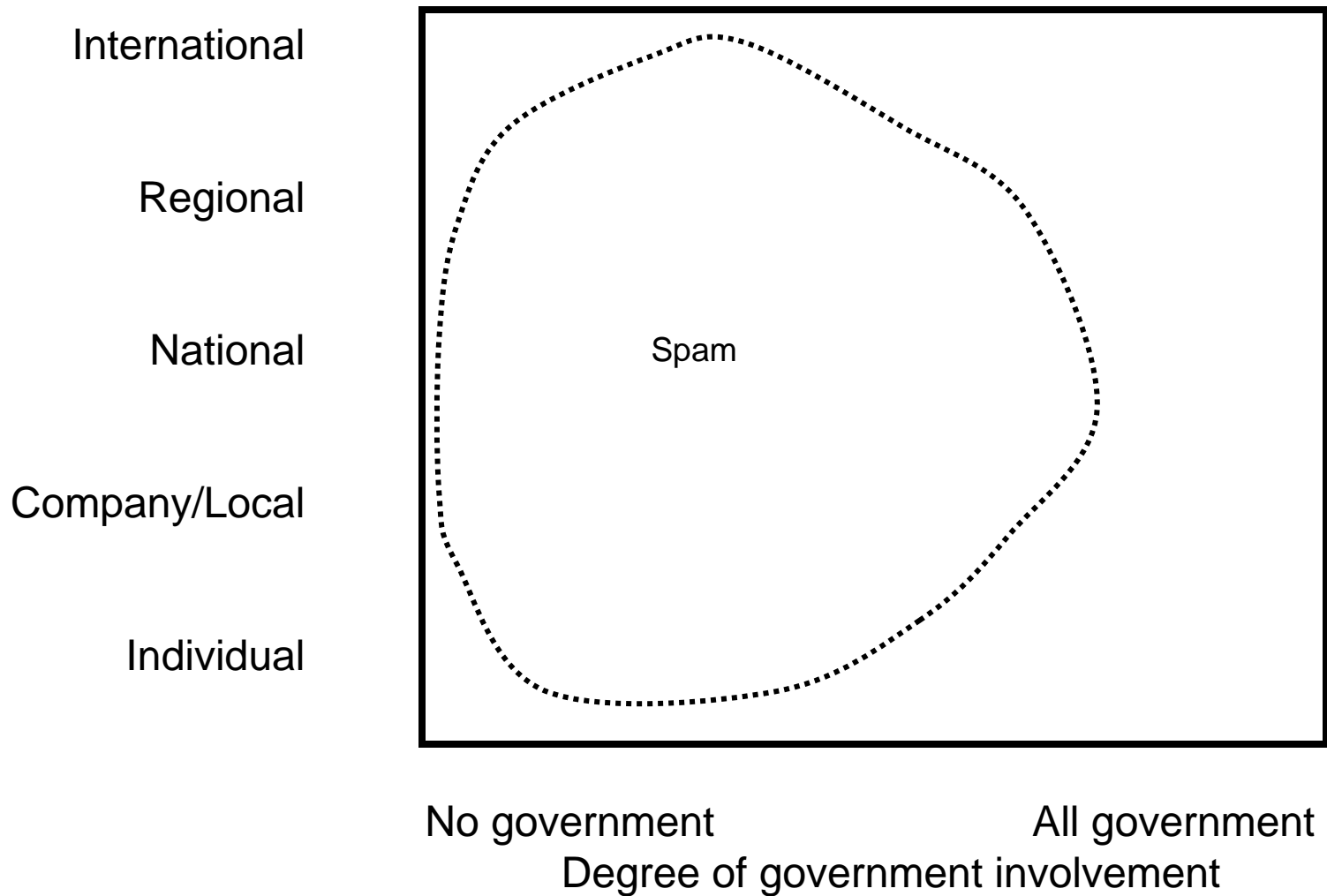
- Privacy → P3P, etc.
- Piracy → DRM
- Pornography → Filtering technologies
- Protection → Authentication
- Pricing → Grid standards
- Policing → Wireless Internet
- Psychology → Phone-Net merger
- Procurement → Voice over IP
- Payments
- Protectionism

Locus of Decision-making



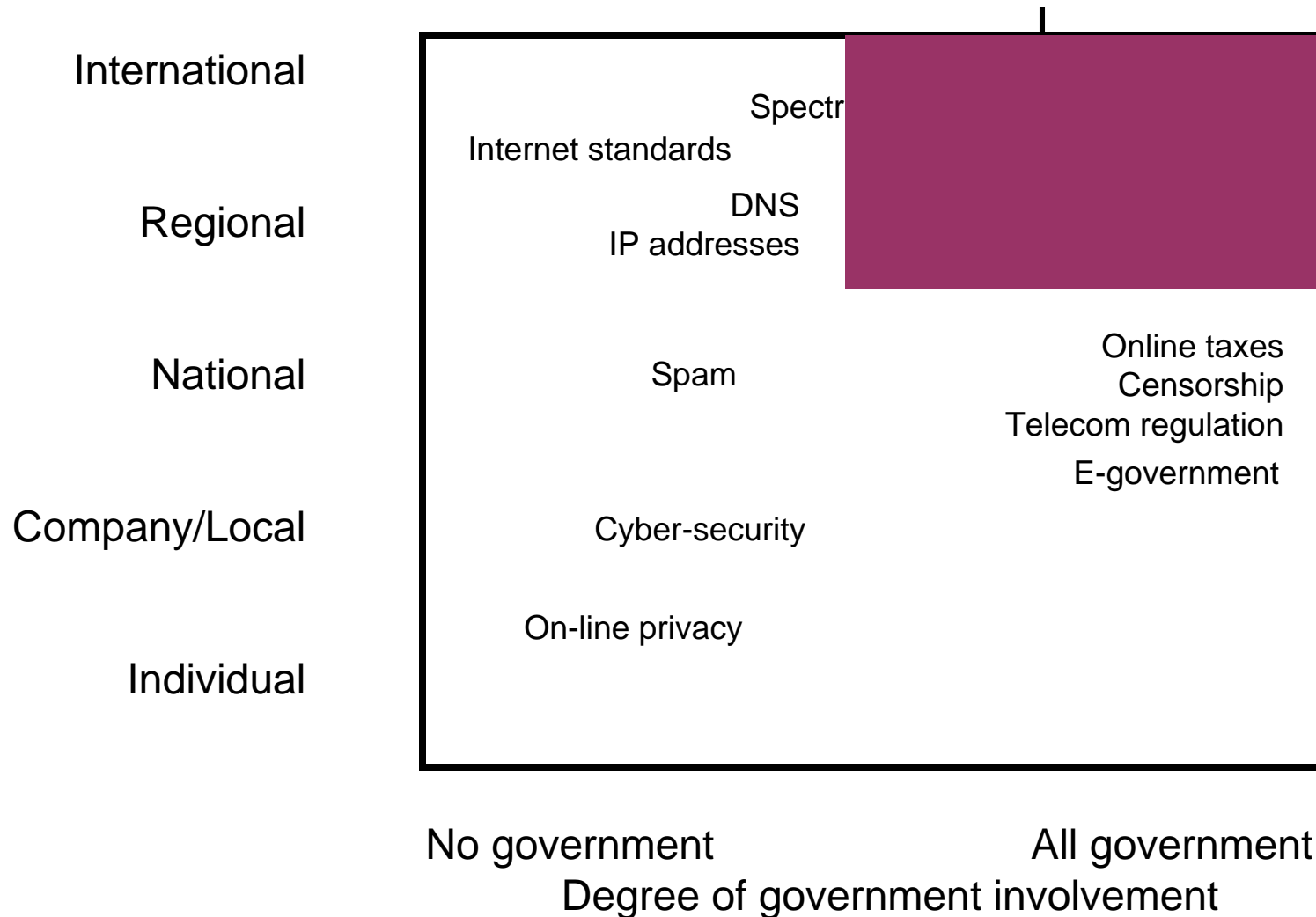
Locus of Decision-making

(Many different decisions in many different places)

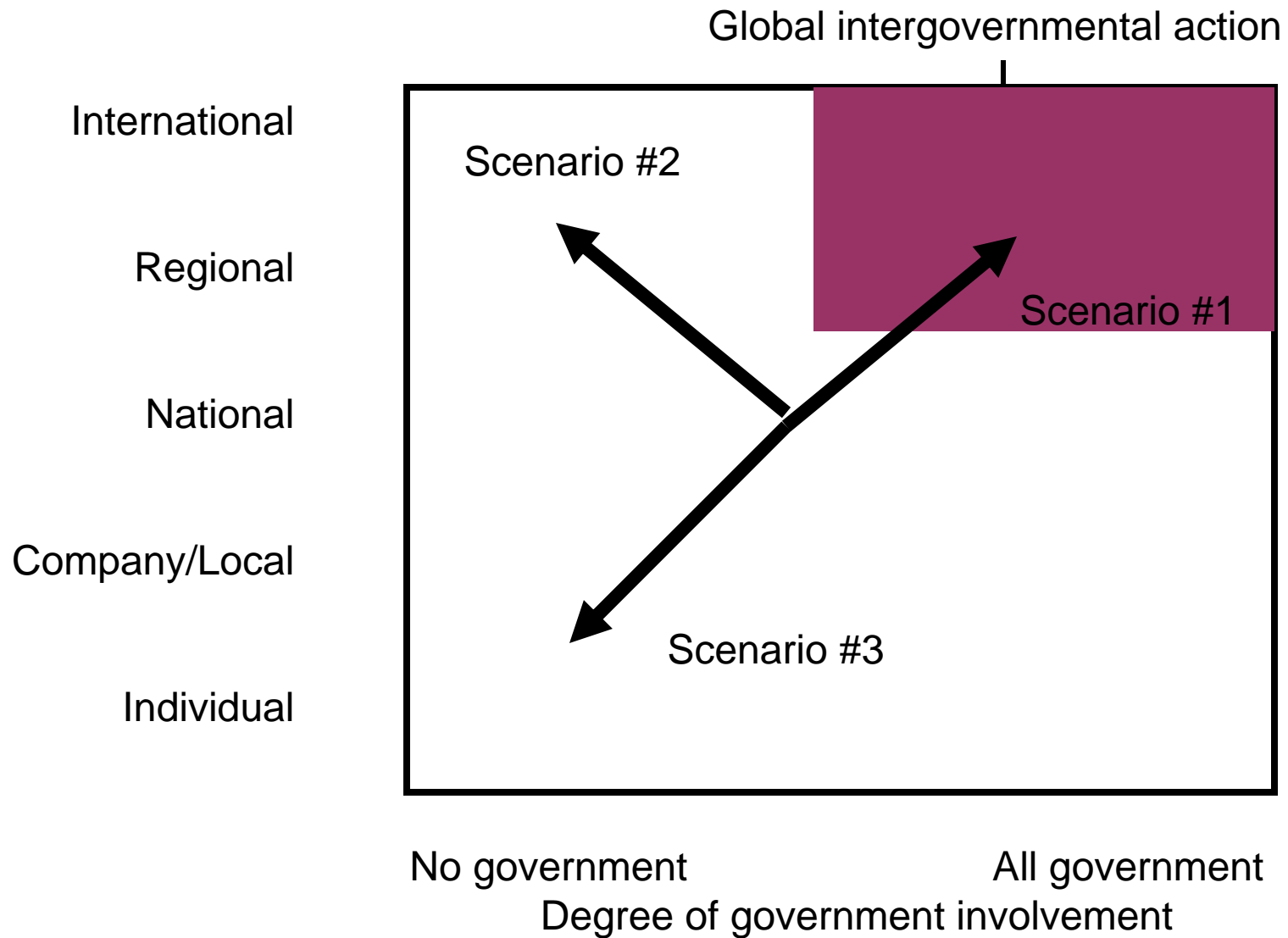


Locus of Decision-making

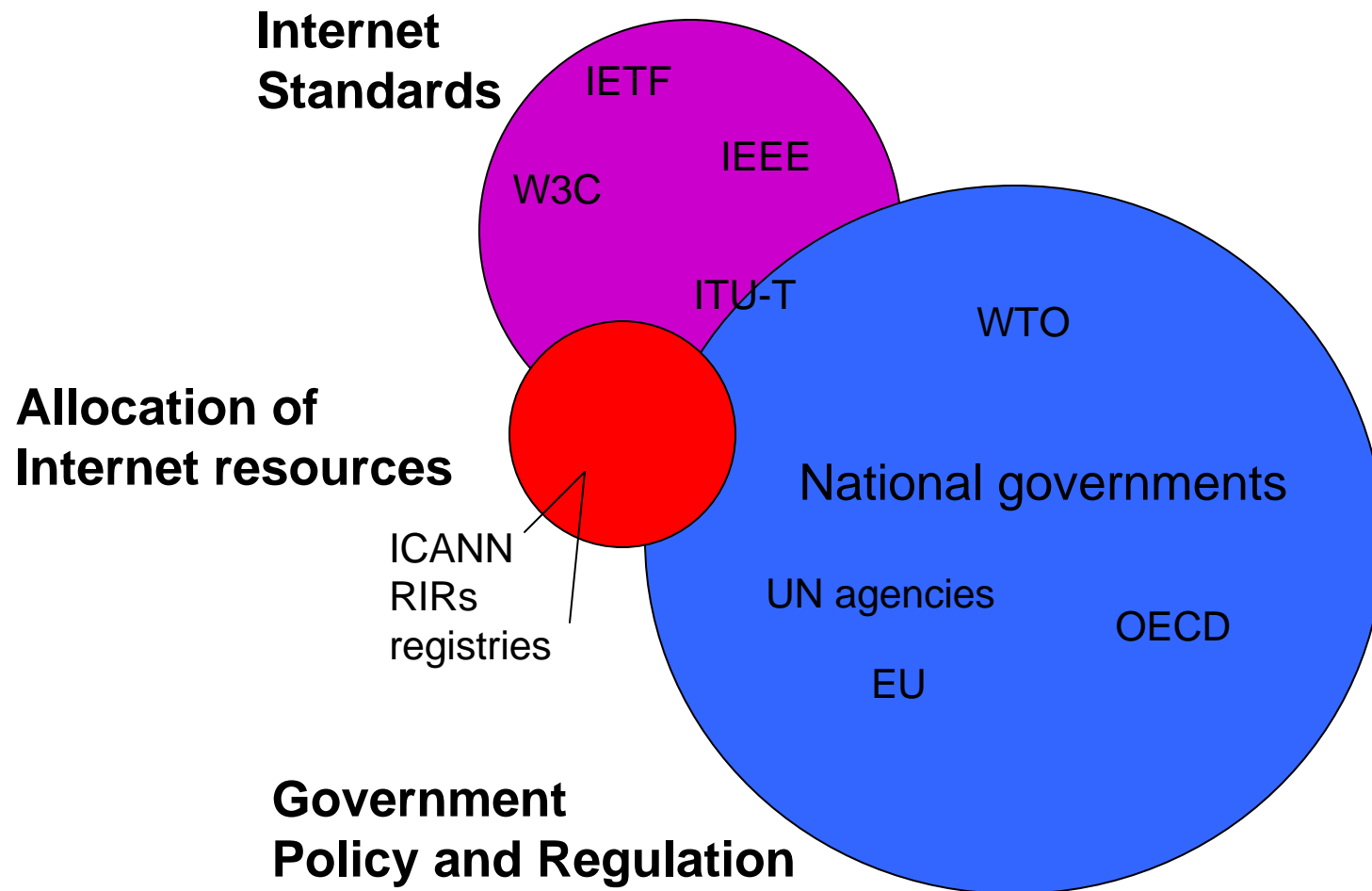
Where intergovernmental action is needed



Where are we headed?



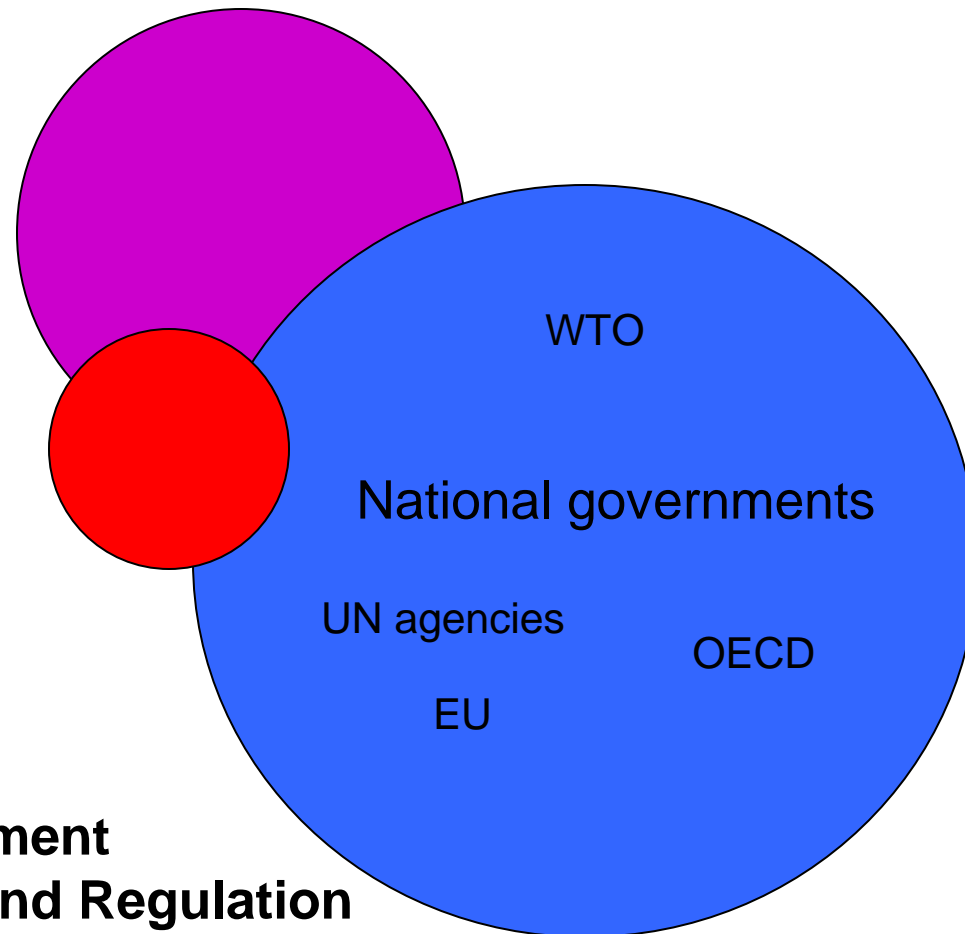
Key organizations shaping the Net



Key decisions shaping the Net

Antitrust policy
Trademark & copyright law
E-government services
Spectrum policy
Government censorship
Telecom regulation
Privacy regulations
Research funding
E-commerce laws
Computer crime
Wiretapping rules

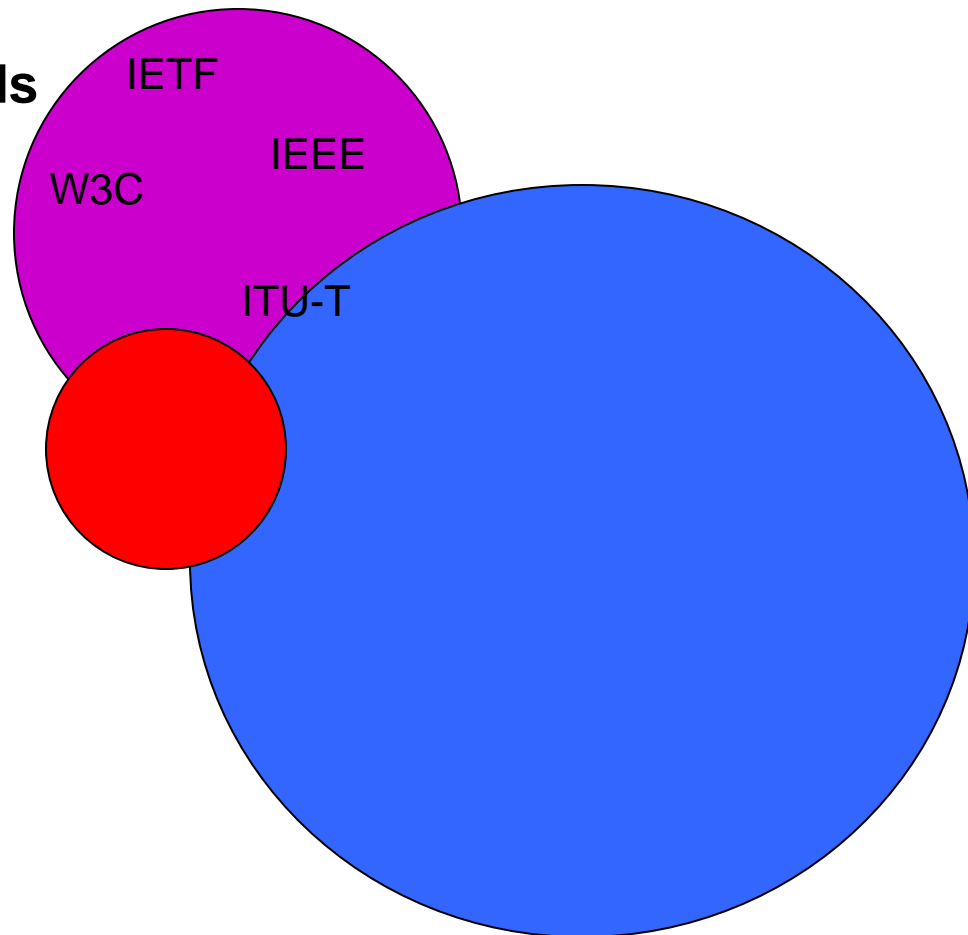
**Government
Policy and Regulation
(mostly national)**



Key decisions shaping the Net

Internet Standards (global)

Standards can affect:
Anonymity
Privacy protection
Ability to wiretap
Ability to filter content
How spectrum is used

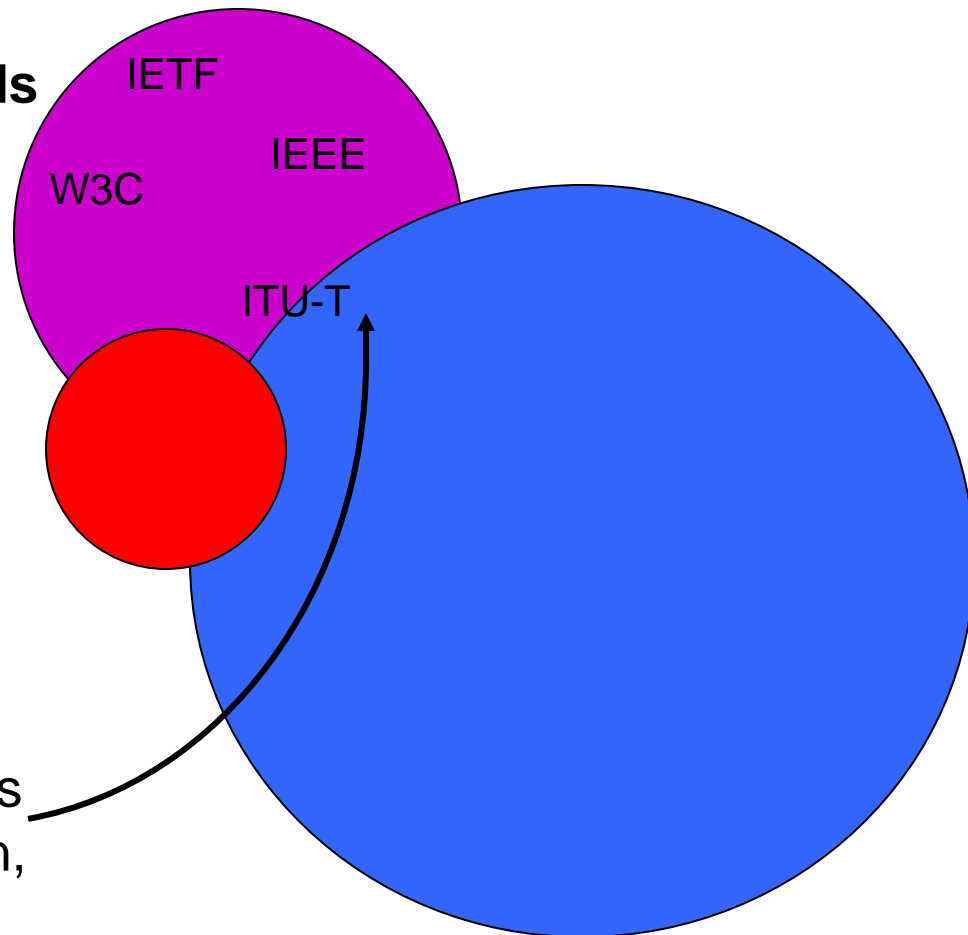


Key decisions shaping the Net

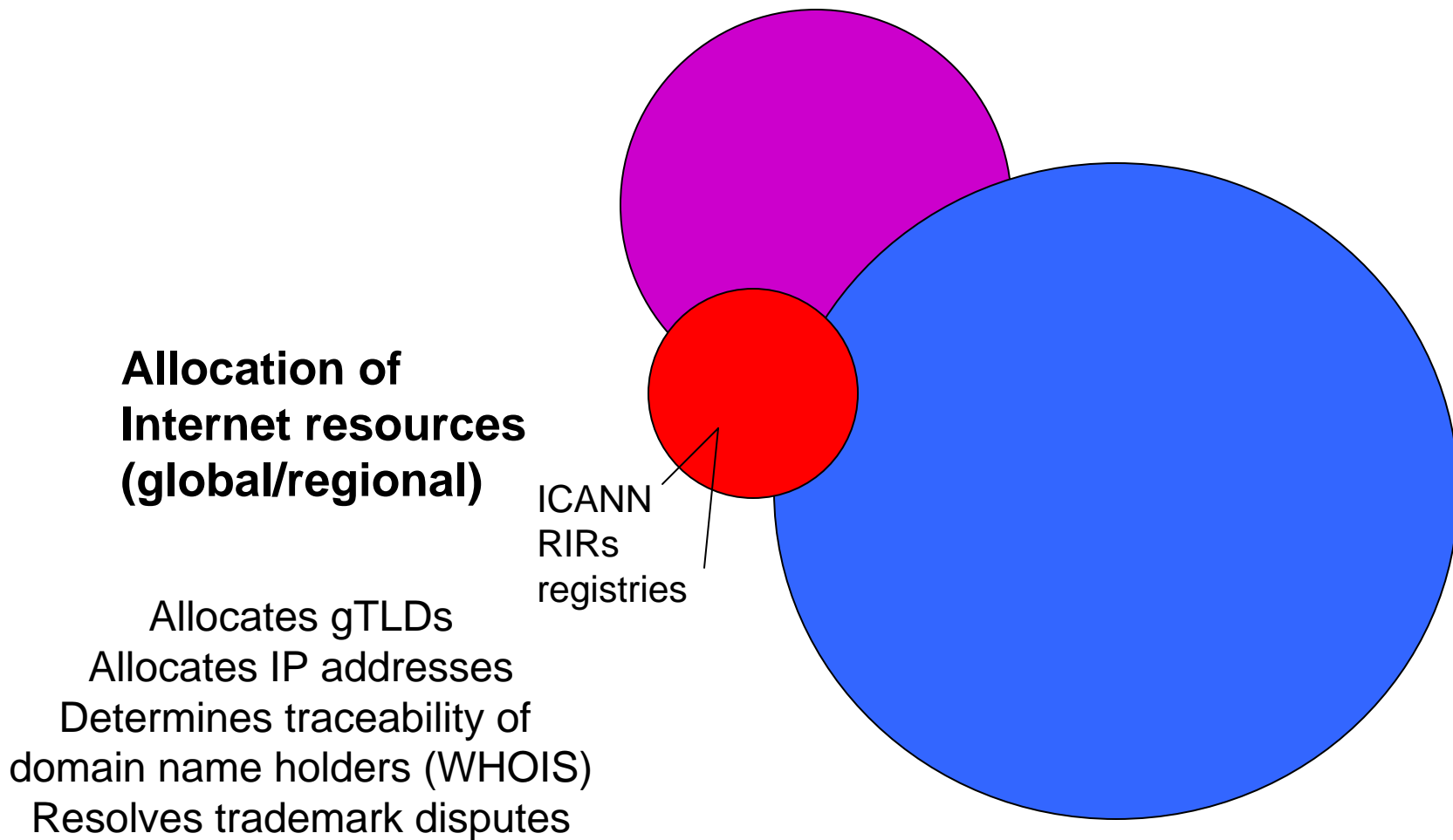
Internet Standards

Standards can affect:
Anonymity
Privacy protection
Ability to wiretap
Ability to filter content
How spectrum is used

Governments can and do influence some key standards (as a user, through legislation, regulation, procurement)



Key decisions shaping the Net



Key decisions shaping the Net

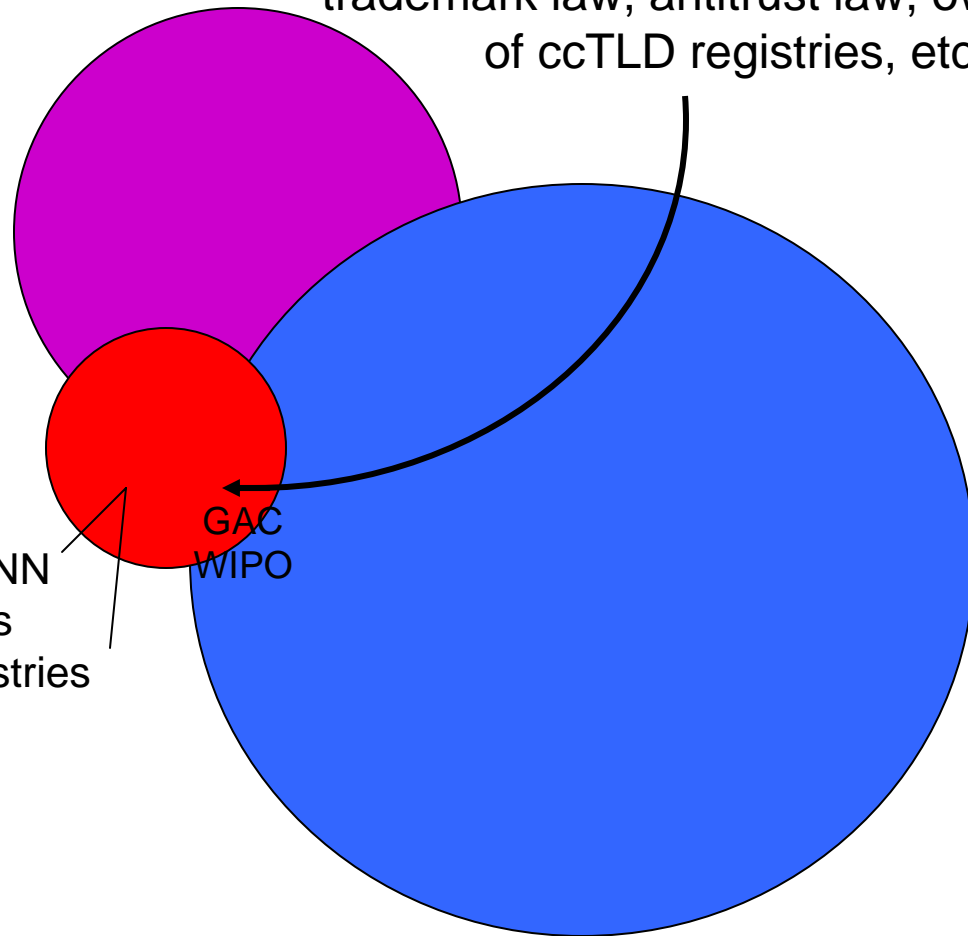
Governments influence through:
trademark law, antitrust law, ownership
of ccTLD registries, etc.

Allocation of Internet resources

Allocates gTLDs
Allocates IP addresses
Determines traceability of
domain name holders (WHOIS)
Resolves trademark disputes

ICANN
RIRs
registries

GAC
WIPO



Where the action is

| Standards | Public Perception | National Governments | Intergovernmental | |
|-----------|-------------------|----------------------|-------------------|-----------------|
| IETF | | | WSIS | ITU |
| W3C | Press | Legislation | Geneva 2003 | ICAIS |
| IEEE | User Behavior | Regulation | | WTSA (Nov 2004) |
| ITU-T | | | | |
| ETSI | Vendor decisions | Procurement | Tunis 2005 | Plenipot (2006) |
| Others | | Courts | | ITR review |

Paper on Grid-related Public Policy Issues

- By Stu Feldman and Mike Nelson
- Goals:
 - Identify communities affected by the Grid
 - Spotlight potential policy barriers to deployment of the Grid

The Grid

- The third phase of Internet applications
 - One-to-one: e-mail, remote log-on
 - One-to-many: Web
 - Many-to-many: Napster, Grid computing
- Enabled by Next Generation Internet
 - Gigaband networks
 - Robust middleware
 - Open standards

Grid and research funding

- The Grid provides powerful new research tool for supercomputing and collaboration
- Governments allocating >\$100 million for Grid initiatives
- U.S. state governments interested
- Challenge: How to justify large Grid investments that benefit many nations?

Grid and education

- Opportunities for new teaching techniques (e.g. simulations, life-like interfaces)
- Providing easy-to-use supercomputing resources to schools
- Challenges:
 - Lack of funding
 - Lack of awareness
 - Lack of vision

Grid and Large Corporations

- Cheaper, more versatile, more reliable IT
- Challenge: Rules on movement of private information

Grid and small business

- The Grid promises easier, cheaper access to powerful computing tools
- Challenge: High-speed networks needed to access the Grid may not be available outside central urban areas.

Grid and e-government

- Cost savings, more reliable services, and integrated IT infrastructure
- Challenges:
 - Fostering inter-agency cooperation
 - Procurement rules and mindsets

Grid and economic development

- Can the Grid offer cheaper, easier access to computing resources to developing countries?
- Challenges:
 - Educating funding agencies on Grid
 - Role of UN agencies (ITU, UNDP, etc.)

Grid and individuals

- The Grid could enable a wide range of consumer services:
 - Games
 - Education
 - Telecommuting
- Challenges:
 - Residential broadband
 - Identity and authentication

Other looming issues

- Privacy of Grid users
- Liability
- Antitrust concerns about Grid providers
- Reliability
- Critical Infrastructure Protection
- Monitoring and eavesdropping
- Intellectual Property Protection
- Taxes and tariffs

Huge potential impacts

- Virtualization makes jobs more mobile
- Grid might lead to greater competition between regions and nations for jobs
- Grid will make it easier to tap scientific and technical talent wherever it is

We need to prepare policy makers

Bottom Line

- The Grid raises a few new issues
- Primary impact is to make existing Internet policy problems more important and much more complex