

# **The Global Internet and New Developments in Reader Selectivity Tools**

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Committee on Science  
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**\* Statements are not presented as those of  
the Society -an international educational  
organization**

# What is the Internet? and Not

## The Internet

7 Million  
Computers  
Seamlessly  
Integrated via  
60,000 Largely  
Private Networks

## On-Line Providers

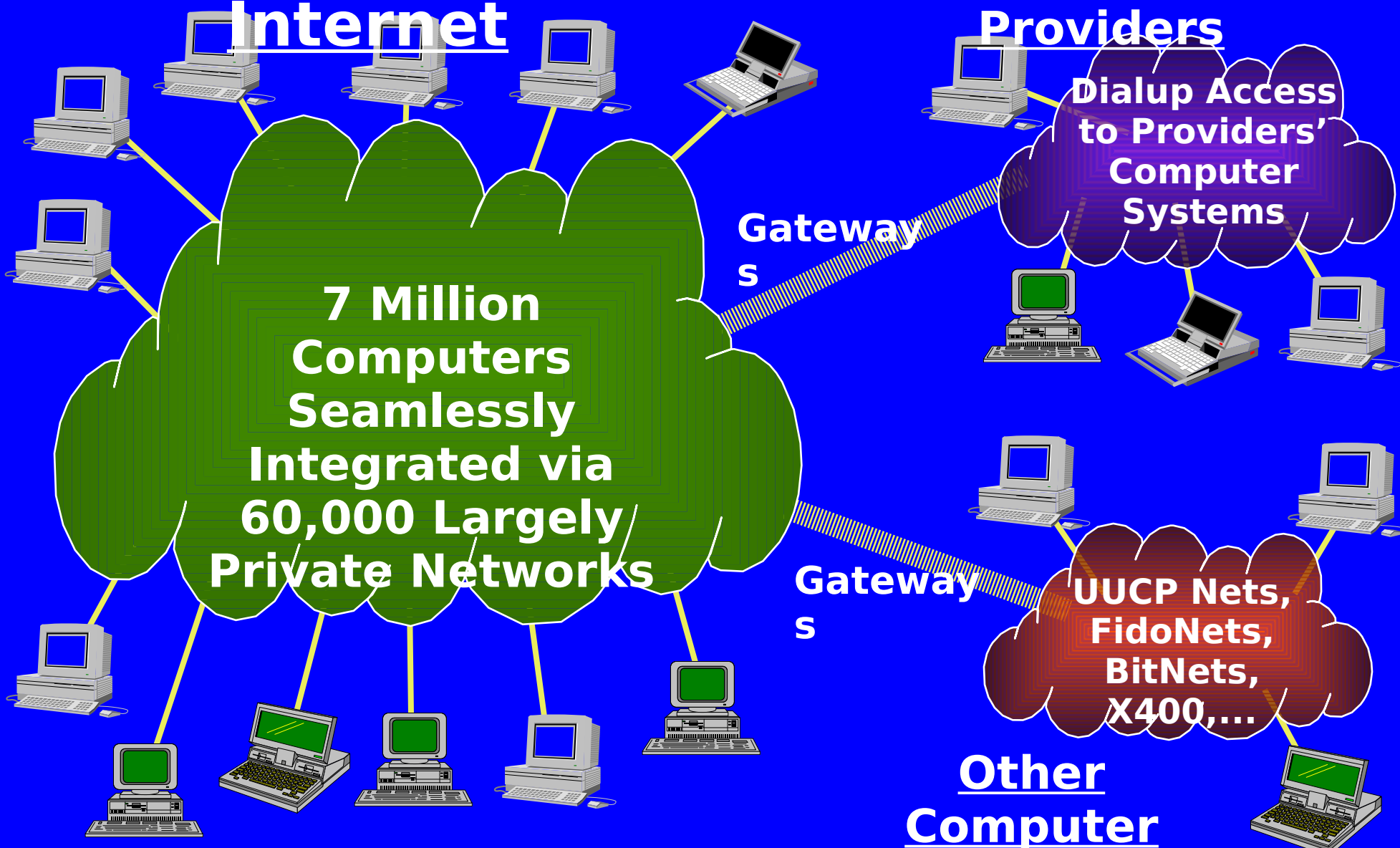
Dialup Access  
to Providers'  
Computer  
Systems

Gateway  
s

Gateway  
s

UUCP Nets,  
FidoNets,  
BitNets,  
X400,...

## Other Computer Networks



# Internet Features - Implications

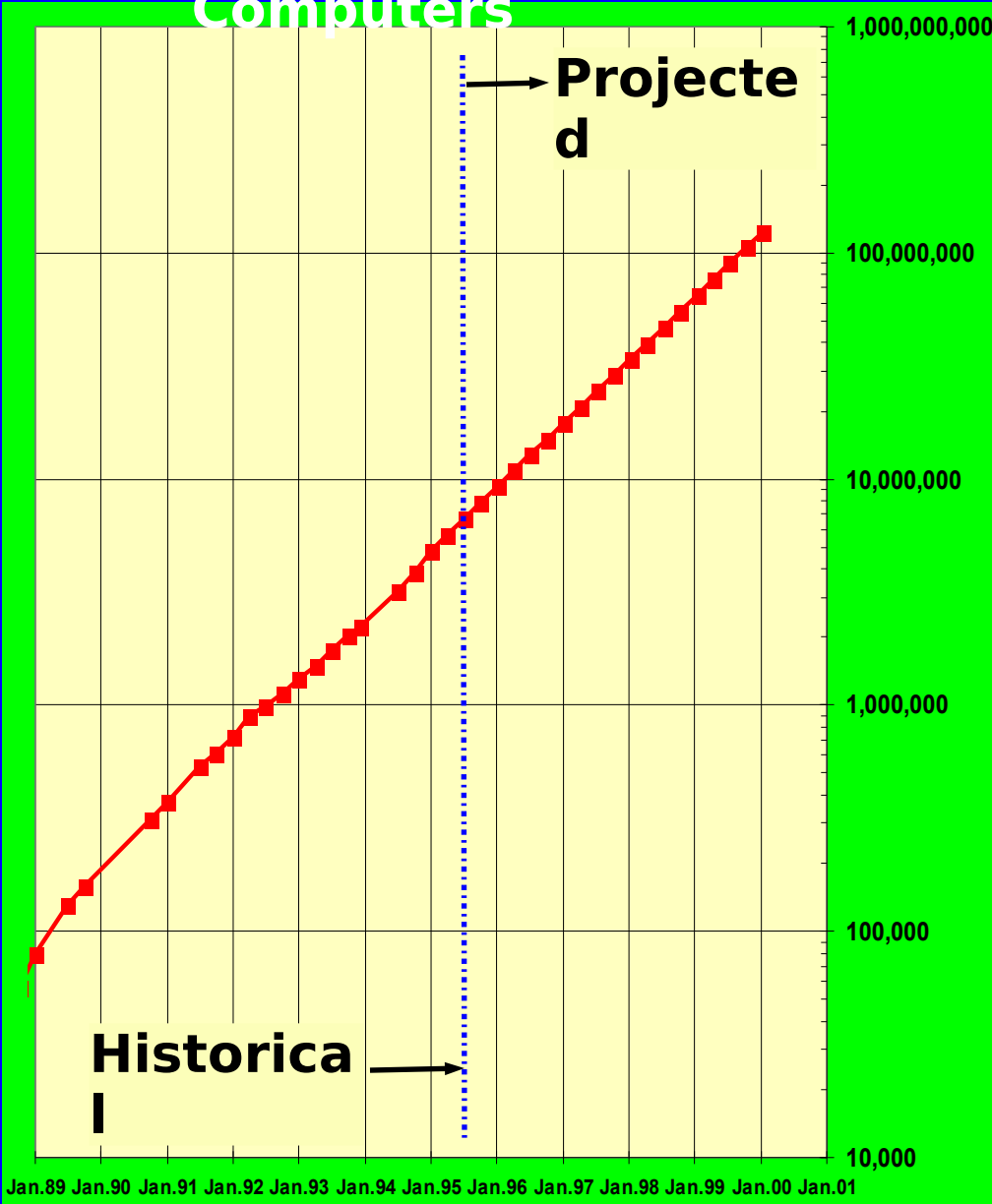
- Highly distributed throughout the world in largely private hands
- Fostered by government non-regulatory policies
- Operates over every kind of infrastructure: local networks, telephone, ISDN, CATV, wireless, cellular, private and common carrier fiber, satellite, submarine cables, and wetstring (not)
- Traffic dynamically routed



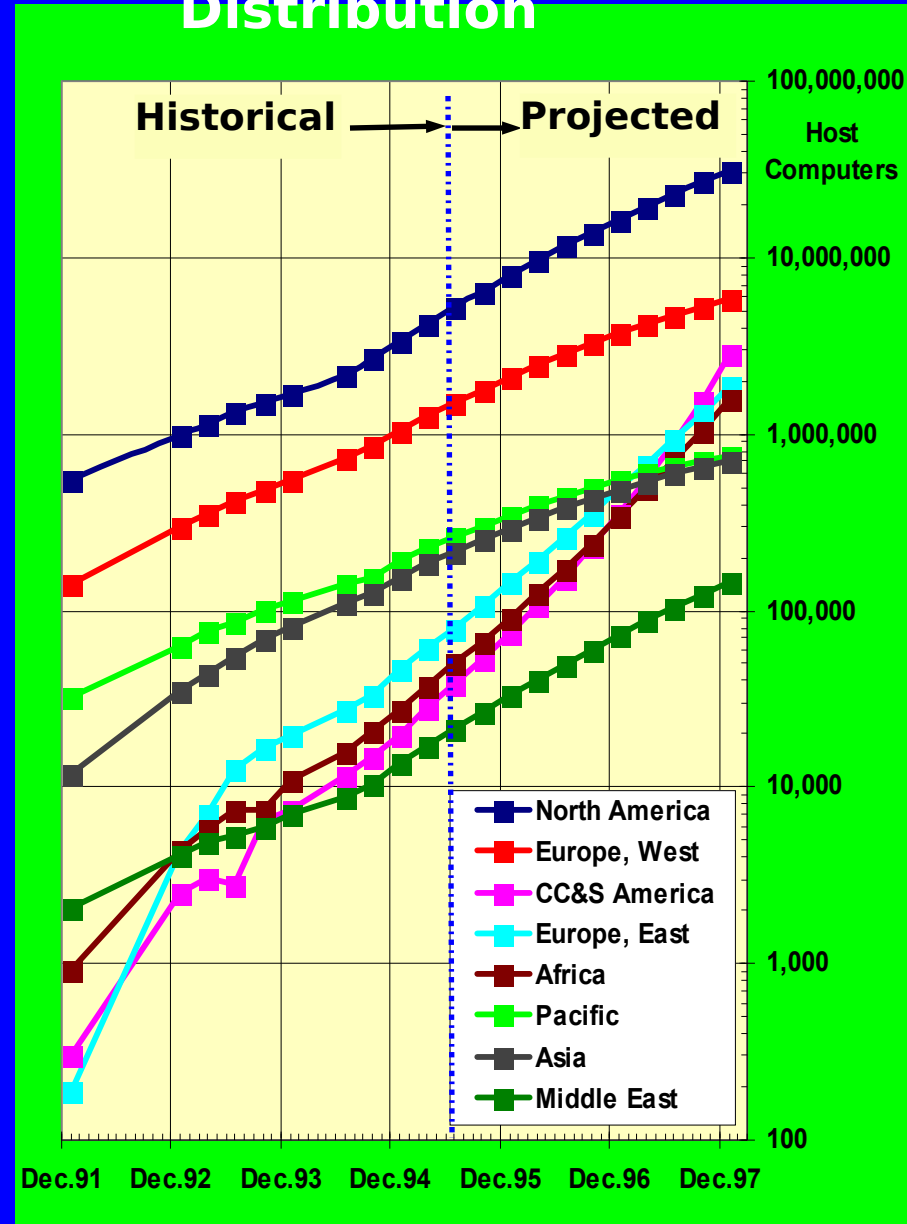
- Difficult to regulate by government dictate or consonant with longstanding deregulation policies
- Significant international effects and complexities
- Criminal and civil law already applies to end user behavior
- Not possible for network operators to be aware of content

# Internet Growth Trends

## Connected Computers



## Global Distribution

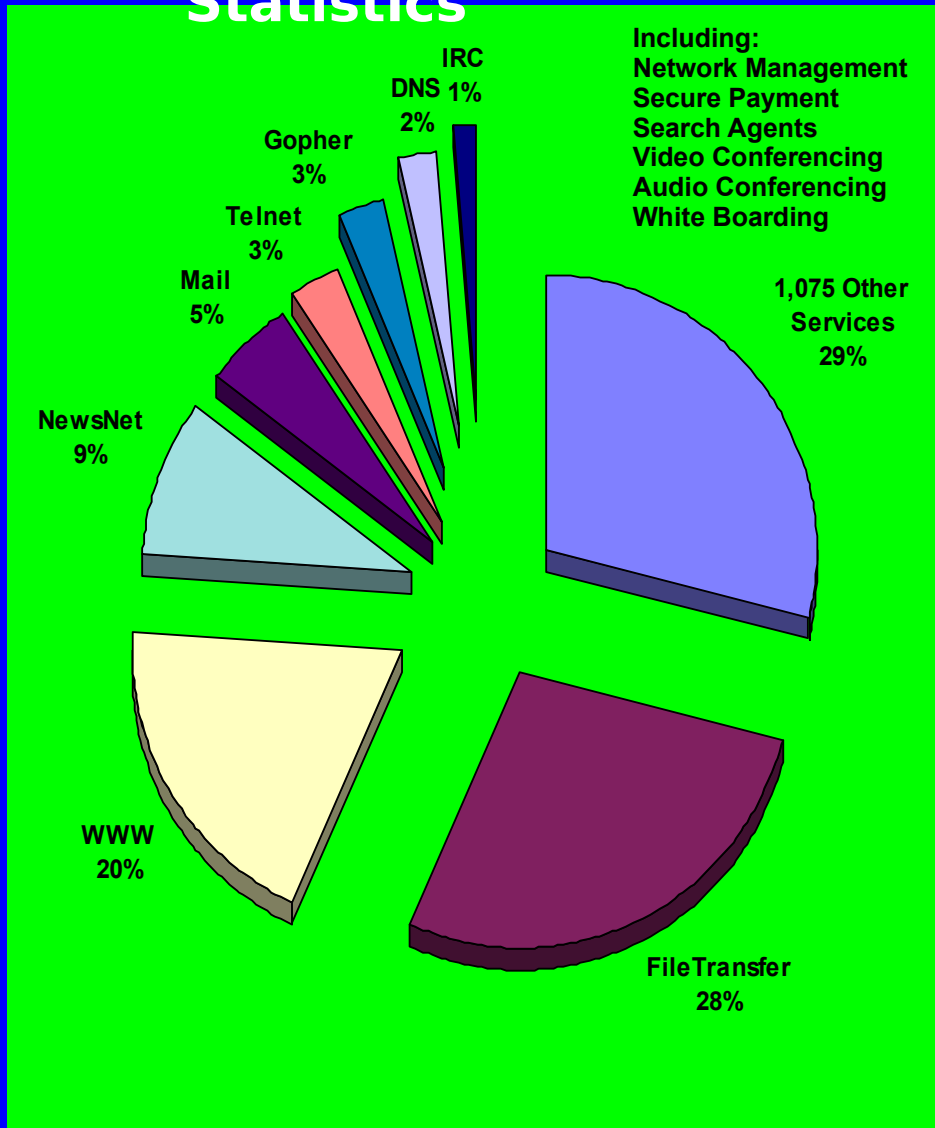


# Internet Global Growth Drivers

- Computers diffusing faster than any previous communication technology
- Internet plug-and-play being built into all computers
- Internet built into local, home, and enterprise networks
- Global trade and telecom liberalization
- Internet access by hundreds of providers via every possible medium
- Simple user interfaces
- Constant neat new tools
- High performance at low cost
- Ultimate global engine for collaboration, education, research, development, information sharing, marketing, sales, and correspondance
- People enjoy networking with others

# How is it used?

## Feb 1995 Traffic Statistics



- Information Sharing
- Global Collaboration
- Distance Education
- Software Distribution
- Scientific Research
- Product Development
- Public Services
- Marketing
- Sales
- Customer Support
- Professional Development
- Correspondance
- Entertainment

# Content Problems

- NUL Widescale public Internet growth and access has inevitably resulted in sharing and distribution of some *objectionable* materials
- NUL It represents a very small part of Internet use
- NUL Such materials are generally available even more readily though other means
- NUL Effective techniques and tools are being rapidly devised by the innovative Internet development engineers to enable reader selectivity of Internet based materials
- NUL However, the techniques and tools themselves may be abused as different governments and groups define *objectionable* in political, cultural, and religious terms
- NUL The Internet development community is deeply concerned that such abuse could significantly diminish the spirit of open global communication across all boundaries that has marked the Internet

# Enabling Reader Selectivity

## Standards and development activities

- Internet Engineering Task Force, Stockholm, July 1995
- World Wide Web Consortium, Cambridge MA
- Vendor products and research programmes

## Scope of activity

- WWW only
- Multiple services

## Additional uses

- Efficient information discovery
- Copyright enforcement

## Effectiveness

- Some tools can be defeated
- Authentication techniques will help

## Fraud potential

- Authentication of labels will require enlightened national encryption policies
- National trademark agencies may need to certify rating organizations

## Abuse potential

- Political, religious and cultural controls
- Use to purposely select objectionable material



# Reader Selectivity Techniques and Tools

## Host Access Control

- Two alternatives: exclude access to known objectionable material, or allow access only to acceptable material
- Features: Poor granularity and hard to maintain, but quickly implemented
- Examples: Surfwatch, caching proxies

## Information filtering using source labels

- Features: fine granularity, easy to maintain, but relies on the source
- Examples: First Virtual/Nathaniel Borenstein KidCode, initiatives from WWW Consortium

## Information filtering using ratings from third party

- Features: Fine granularity, allows multiple specialized groups to enter ratings business, but difficult to maintain
- Examples: Los Alamos National Labs has Sun Hot Java based prototype; Dirk-Willem van Gulik implementation in Europe

## Other alternatives

- Bandwidth and machine saturation
- Industry/provider code of conduct and enforcement
- Password accounts
- Credit card access
- Material encryption

# Summary

- The global growth and evolution of the Internet are occurring at hyper speed**
- As problems have arisen, the Internet development community has responded with effective solutions**
- Objectionable materials in fact constitute a very minor part of the Internet environment**
- Access to and distribution of such materials can be addressed with existing laws, emerging reader selectivity solutions, and Internet industry action**
- Legislative and regulatory approaches attempting to deal with such a complex, global and dynamic network environment are unneeded, unlikely to be effective, and may engender adverse international effects**