Are technology standards too important to leave to those that know what they are doing?

Public Design Workshop

September 14, 2002

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Premise

- "Code is Law"

- design of technology dictates possible operation modes

- possible operation modes dictate possible user functions

- possible operation modes dictate possible government functions

Some Examples: Early Internet

- support existing networks
- **datagram**-based
- creating the **router** function
- split TCP **and** IP
- DARPA fund Berkeley to add TCP/IP to **UNIX**
- CSNET and **CSNET/ARPANET** deal
- NSF **require TCP/IP** on NSFnet
- ISO **turn down** TCP/IP
- NSF Acceptable Use Policy (**AUP**)

Some Examples: IETF

- example working groups

  enum: Telephone Number Mapping

    map phone numbers to URLs

    privacy, single root at e164.arpa, relate to ITU

  opes: Open Pluggable Edge Services

    web inserters in path

    to do it at all

  geopriv: Geographic Location/Privacy

    transmit user location over net

    privacy

Some Examples: IETF, contd.

◆ IETF policies

   RFC 1984 - crypto policy

   RFC 2804 - wiretapping

   security requirements - push towards end-to-end

   standards process

     rough consensus - no voting

Basic Question

◆ who should be involved in technical decisions?

◆ options

  individual technical people

  corporations

  public interest groups

  traditional standards development organizations

  governments

Open?

◆ what does "open" mean in a standards organization?

    A/ IETF is open because anyone can participate

    B/ IETF is not open because there is no way to ensure everyone that might be impacted by IETF decision knows about the proposal before adoption

◆ what about access to discussion?

    fee-based (ITU, ISO, ETSI, forums etc)

    open (IETF)

◆ who makes decision?

    members/participants (IETF, forums)

    governments (ITU, ETSI, ISO)

Dilemma

- ◆ technologists understand the technology and its limitations - but may be weak on technology

- ◆ policy people may understand social implications but do not understand technology

    e.g., Communications Decency Act

        mandate was not technically possible

Case Study: Copyright

◆ copyright people want to require that every computing device be able to protect their rights

  i.e., policy limiting technology flexibility

◆ major technology implications

  result in ban on open source operating systems

  reduce flexibility of computing platforms

◆ major non-technical implications

  effective ban on fair use

  make archiving impossible

  could destroy concept of individual ownership

Case Study: Encryption

◆ IETF pushes end-to-end encryption

　　makes wiretapping useless

　　"anti social act"

◆ last administration pushed key escrow

　　did not solve problem of real criminals use of encryption

　　enabled forgery by officials

Something from History

◆ David Reed (early developer of Internet protocols) was asked last week "what was your biggest bad decision?"

◆ he replied "not putting in good end-to-end encryption at the start"

   push back by some in the military

◆ but it was not a real thoughtful decision

   they just did not focus on the issue

What would have been the right way to make that decision?