Internet Regulation

- Given that the Internet is all but unregulated and the cost of producing such spots is minimal, the episode is probably a harbinger of what is in store for the 2008 campaign, at least the part that will play out on the Internet.

- “The 2008 campaign is going to be dramatically different because of YouTube, because of citizen involvement, and because of people like Phil de Vellis doing an ad that becomes explosively viral,” said Arianna Huffington, [link](http://articles.latimes.com/2007/mar/22/nation/na-hillary22).

Circle of Life

- Who made the Obama ad?
  - Blue State Digital employee

- Zephyr Teachout, who was Dean's Internet director and is now a visiting law professor at Duke University [says] "We developed all the tools the Obama campaign is using: SMS [text messaging], phone tools, Web capacity," .... "They [Blue State Digital] did a lot of nice work in taking this crude set of unrelated applications and making a complete suite.” [link](http://www.technologyreview.com/Infotech/21222/?a=f).

Internet Governance

- IETF: What do they “govern”?
  - What is the Wikipedia rough consensus model?
    - [link](http://en.wikipedia.org/wiki/Wikipedia:Deletion_guidelines_for_administrators)

  Consensus is not determined by counting heads, but by looking at strength of argument, and underlying policy (if any). Arguments that contradict policy, are based on opinion rather than fact, or are logically fallacious, are frequently discounted. For instance, if someone finds the entire page to be a copyright violation, a page is always deleted. If an argument for deletion is that the page lacks sources, but an editor adds the missing references, said argument is no longer relevant.

IETF, IANA, ICANN, IGF, ITU

- What’s the I in these organization
  - Internet or International

- IANA: Internet Assigned Numbers Authority
  - Operated by ICANN
  - Root-zone management ccTLD, gTLD
    - DNS, we’ll see openDNS later
  - Given authority by Department of Commerce
    - Possible issues here?
      - [link](http://www.icann.org/announcements/european-ralo-mou-en.pdf)
IANA and IPv4 (and more)

- From IANA to CIDR
  - IP addresses in blocks
  - Size of block in bits
  - Granularity of # bits?

- Changing role of US in ICANN
  - WSIS, ITU, ...
  - Will the US lose its ‘power’?
  - Should US lose its ‘power’?

BIT: Binary Digit

- Why do humans use base-10 numbers?
- Why do computers use base-2 numbers?

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Scale and reasoning about bits

- How many addresses in 32 bit, IPv4 address?
  - If we add 1 bit, how many more addresses?
  - What’s base-10 equivalent?

- If you use a 32-bit encryption key, and computers can do one billion “is it this?”/second?
  - How many seconds to break with brute force?
  - If we add 1 bit, how many seconds?
  - How many seconds for 128-bit encryption key?
- Skype uses 256-bit encryption key!

Routers, bits, and scale

- Given 152.3.250.0/24, how many bits are used?
  - BGP router table examines/stores prefixes
  - Look at/differentiate $2^{24}$ prefixes quickly?
  - How do you look things up? Computer?

- Routers process lots of packets quickly
  - 802.11n router, BGP router, ...
  - Adding one bit doubles number of addresses, what about seconds/address to process?