Opt-in WG

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Agenda

- 5' Agenda bashing, scribe
- 15' Introductory remarks
- 30' Jay Lepreau
- 100' Discussion:
  - scoping
  - motivation
  - technical components
  - legal & "IRB" issues
  - risk reduction activities

Tentative charter

- Wiki: http://wiki.cs.columbia.edu

Who are the users?

- ~ Internet 2
  - students at major research universities
  - researchers
- Early adopters
  - e.g., open wireless
- Your mother
  - why? how?
- Bad guys
  - we'll need more of them!

Scoping

- GENI infrastructure OAM
- Services for experimenters
- Services for users

A modest proposal

- GENI needs users, with motivation
- New applications:
  - health advice
  - international cooperation opportunities
  - investment banking
- Even willing to pay for services!

Opt-in views

- GENI as ISP
  - alternative network interface
  - "Internet 3"
- Generalized end-user services
  - services running on user devices
  - "SETI@HOME 2.0"
- In-network services
  - services provided by GENI infrastructure
  - "PlanetLab 2.0"

Opt-in retail & wholesale

- Retail
  - each user decides
    - per service
    - per destination
- Wholesale
  - by origin: campus dorm, open access wireless network
  - by destination: reach group of services

User motivation

- *bribe'em, woo'em, force'em*
- Cheaper
  - subsidy, not inherently - "bribery"
- Faster
  - Not likely for I2 users
- More reliable
  - unlikely for experimental system
- Less restricted
  - also not likely for I2 users

Technology pieces

- Virtual ISP
  - easy for WLAN-style access or VLANs
  - not hard if users can configure DHCP server
- Non-IPv4/6 services
  - just another network interface - leverage IPv6 experience
- L7 services
  - addressed as usual
- Experiment description and user opt-in
  - formalized description mechanism instead of one-off IRB process?

Incentives

- Can users be provided with trade-able incentives?

  - provide CPU cycles, storage, wireless access, human cycles, ...

  - money = medium of exchange (vs. barter)

- Virtual currency?

  - cf. Linden Dollars (SecondLife)

Legal & IRB issues

- Informed consent?

- Just privacy statements?

  – P3P?

- Who is responsible if bad guys get SSNs and credit card numbers from user machines running GENI services?

- CALEA?

Risk reduction activities

- What technologies are needed?

- End system VM?

- User service selection?

- Experiment description?