

Opt-in WG

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Oct. 2007

GENI meeting Minneapolis

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?