



FIRE: Future Internet Research and Experimentation Initiative

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The AUEB Team

- Network Economics and Services (<http://nes.aueb.gr>)
 - ◆ **Costas Courcoubetis**, George Stamoulis
 - Economic theory, Game theory, Business Models
 - Accounting, distributed accounting and incentives
 - P2P, reputation
 - Grid, VOs
- Mobile Multimedia Laboratory (<http://mm.aueb.gr>)
 - ◆ **George Polyzos**, George Xylomenos, Ioannis Marias
 - Wireless, mobile, Internet, security
 - P2P, reputation , trust, VOs
 - 4G, network integration, micro-operators
 - Multimedia
- Close collaboration between groups: projects, papers, ...

What do you expect as experimentally driven long-term research about the future Internet?

- Architecture that allows the process of competition to evolve at various levels of the value chain, rather than prejudging who controls the outcome
- Grass-root application and service creation (& testing...)
 - ◆ large, dynamic user base
 - AAA, security, accountability...
- Wireless & Mobile communications as first-rate Internet citizen
- Policy, economic, business (vs. technology-only) issues, at the forefront

What type of testbeds is your organization interested in?

- Large P2P systems
- Large Grids, Virtual Organizations
- Large wireless & mobile environments
- Federations
 - ◆ independent ownership, control
 - ◆ rules for use
 - ◆ incentives for cooperation
 - ◆ competition (& cooperation)
 - ◆ security, anonymity & accountability

What do you expect from an experimental facility (or from a federation of testbeds)?

- "Perhaps the most fundamental issue in PlanetLab's design is **how to manage trust** in the face of pressure to **decentralize** the system, where decentralization is motivated by the desire to (1) give owners **autonomous control** over their nodes and (2) give **third-party service developers** the **flexibility** they need **to innovate**."

[Peterson et al., "Experiences Building PlanetLab," OSDI, 2006]

- Problems (Intel 2005): Capacity, Security, Reliability
- Federation of infrastructures
 - ◆ Autonomous entities need incentives to cooperate, accounting, security...
 - ◆ Competition at various levels: innovate and evaluate