



FIREWORKS

# Challenges for Federation: Users and Uses



# Monitoring

- EVERGROW's unanswered questions – character (and rate of growth) of wireless edge networks, WiFi, cellular, and hybrid – require seeing into these worlds. FIRE provides this opportunity.
- EVERLAB (a private PlanetLab) contributes usage monitors which are inherent (but haven't been exploited) in the PlanetLab toolkit. These are vital for understanding what policy controls in a heterogeneous testbed infrastructure can accomplish.

# Virtualization and Federation – of....?

- **R**eminder – the Internet is **not** broken, but can no longer change unless virtualization allows a gradual introduction of disruptive protocols, more interactive services, and reduces the isolation of fast-growing “edge” networks.
- Federation of the testbeds in which we explore all of the above will not just provide remote access but exposes and may solve the issues critical to migrating new protocols and services into the “real” Internet.
- Increasing scale may be the major benefit. Plus introducing users who are not part of the testbed initial point of view.
- What are the implications for monitoring and for FIRE?

# Federation Objectives

- Bring European PlanetLab to a professional level, easier to manage and evolve. And meeting the needs of a broader set of customers.
  - education, outreach, requirements-gathering
- Federating testbeds to support many distant users
- Federating testbeds to operate together
  - These are two very different tasks, and the second starts to drive virtualization goals as well.