



ana

autonomic network architecture

Challenges for the Fire large-scale experimental facilities

Martin May

ETH Zurich

ANA Project

- ANA is designing and building a new network architecture
 - ANA provides an implementation framework for future networking principles
 - Focus is on router platforms
 - Huggle is building a platform for opportunistic networking
 - Huggle provides a basis for new communication paradigms (pocket-switched networks)
 - Target: mobile devices
- Ultimate goal is to have developers using these frameworks to build new networks/protocols/services
- ANA will integrate its architecture in smaller/mobile devices

- We need:
 - Infrastructure **beyond PlanetLab**
 - Access to the media
 - Fiber, cable, wireless, ...
 - Heterogeneity of devices:
 - Routers, mobile devices, sensors
 - Users
 - not only research traffic
 - platforms to host experimental services
 - Applications and services

- We will have multiple parallel testbeds
 - Federation of testbeds
 - Interface or gateway between these networks?
 - Global addressing / naming / identification?
- Large-scale measurement campaigns
 - Mobility measured with up to 100 participants only
- Integrate social interactions: Social Networks
 - Real users → incentives / applications
- Inter-relationship between service and network layer
 - What are the requirements from the service side?
 - Is the API provided by the network sufficient?

- Management of the testbed
 - Resource reservation vs. virtualization
 - Repeatability of the tests
- Data sharing
 - Anonymization of measurement data

- For more information, please contact me or visit the project web sites:
- www.ana-project.org
- www.hagggleproject.org

Questions?