



# Internet in a Box

Building Distributed System Testbed in RAMP

Zhangxi Tan

Computer Science Department  
University of California, Berkeley

Xiaofan Jiang

Electrical Engineering Department  
University of California, Berkeley



# Introduction

- Testing and debugging large scale distributed systems is **difficult**
- Problem with existing approaches
  - Scalability –  $O(100)$  nodes
  - Reproducibility - PlanetLab
  - Observability - Don't know what's going on inside
  - Cost, Space and Power
- Build distributed system testbed with over **1,000** nodes using multi modular FPGA system
  - Building block, HW/SW and networking infrastructure this semester

