PlanetLab: A Blueprint for Introducing Disruptive Technology into the Internet

Scott Karlin, Princeton University

PlanetLab is an experimental global network of computers, designed to allow researchers to develop and test powerful new types of software that are not confined to a single computer, treating the global network as one large, widely distributed computer.

A new class of geographically distributed network services is emerging, and the most effective way to design, evaluate, and deploy these services is by using an overlay-based testbed. Unlike conventional network testbeds, this new approach supports researchers who want to develop new services and clients who want to use them. This dual use suggests four design principles that are not widely supported in existing testbeds:

- services should be able to run continuously and access a slice of the overlay’s resources,
- control over resources should be distributed,
- overlay management services should be unbundled and run in their own slices, and
- APIs should be designed to promote application development.

This talk describes this high-level vision, and reports the status and plan for the realization of the vision in PlanetLab.

Scott Karlin is a Research Associate in the Department of Computer Science at Princeton University, where he completed his Ph.D. last fall. In the 10 years before returning to graduate school, he worked for TRW Space and Defense, The Aerospace Corporation, and Nicholas Applegate Capital Management. He holds an M.S. in computer science from Loyola Marymount University and a B.S. in electrical engineering from California Institute of Technology.

All ACM / IEEE-CS meetings are open to the public. Students and their parents are welcome. There is no admission charge, and refreshments are served.

A pre-meeting dinner with the speaker is held at 6:00 p.m. at Ruby Tuesday’s Restaurant on US 1. Please send e-mail to princetonacm@acm.org in advance if you plan to attend the dinner.