

## It's Been a Fun Ride

3/19/2020

[5 Comments](#)

Larry Peterson

We are officially shutting down PlanetLab at the end of May, with our last major user community ([MeasurementLab](#)) having now migrated to new infrastructure. It was 18 years ago this month (March 2002) that 30 systems researchers got together at the Intel Lab in Berkeley to talk about how we could cooperate to build out the distributed testbed to support our research. There were no funding agencies in the room, no study group, and no platinum sponsors. Just a group of systems people that wanted to get their research done. We left the meeting with an offer from David Tennenhouse, then Director of Research at Intel, to buy 100 servers to bootstrap the effort. In August, the day before SIGCOMM, a second underground meeting happened in Pittsburgh, this time drawing 80 people. The first machines came online at Princeton and Berkeley in July, and by October, we had the 100 seed machine up and running at 42 sites. The rest, as they say, is [history](#).

In retrospect, it was a unique moment in time. The distributed systems community, having spent the previous 15 years focused on the LAN, was moving on to wide-area networking challenges. The networking community, having architected the Internet, was ruminating about how it had become ossified. Both lacked a realistic platform to work on. My own epiphany came during an Internet End-to-End Research Group meeting in 2001, when I found myself in a room full of the Internet's best-and-brightest, trying to figure out how we could possibly convince Cisco to interpret one bit in the IP header differently. I realized we needed to try a different approach.

PlanetLab enabled a lot of good research, much of which has been documented in the website's [bibliography](#). Those research results are certainly important, but from my point of view, PlanetLab has had impact in other, more lasting ways. One was a model for how computer scientists can share research infrastructure. Many of the early difficulties we faced deploying PlanetLab had to do with convincing University CIOs that hosting PlanetLab servers had an acceptable risk/reward tradeoff. A happy mistake we made early on was asking the VP for Research (not the University CIO) for permission to install servers on their campus. By the time the security-minded folks figured out what was going on, it was too late. They had no choice but to invent Network DMZs as a workaround.

A second was to expose computer scientists to real-world operational issues that are inevitable when you're running Internet services. Researchers that had been safely working in their labs were suddenly exposed to all sorts of unexpected user behavior, both benign and malicious, not to mention the challenges of keeping a service running under varied network conditions. There were a lot of lessons learned under fire, with unexpected traffic bursts (immediately followed by email from upset University system admins), a common right-of-passage for both grad students and their advisors. I'm not surprised when I visit Google and catch up with former faculty colleagues to hear that they now spend all their time worrying about operational challenges. Suddenly, network management is cool.

Then there were the non-technical, policy-related issues, forcing us to deal with everything from DMCA take-down notices to FBI subpoenas to irate web-surfers threatening to call the local Sheriff on us. These and similar episodes were among the most eye-opening aspects of the entire experience. They were certainly the best source of war stories, and an opportunity to get to know Princeton's General Counsel quite well. Setting [policy](#) and making judgements about content is really hard... who knew.

Last, but certainly not least, is the people. In addition to the fantastic and dedicated group of people that helped build and operate PlanetLab, the most gratifying thing that happens to me (even still today)

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is running into people--usually working for an Internet company of one sort or another--who tell me the same thing. I was a PhD student at the University of California at Berkeley and I haven't run into you recently (or even if I have) please leave a comment and let me know what you're up to. It will be good to hear from you.

5 Comments

**ANDREW MOORE**

3/21/2020 04:23:19 am

Thanks Larry, Thanks David, thanks Steve, thanks everyone - the ride has been great but the people I've met along the way - that is what has made it brilliant!

REPLY

**TIMUR FRIEDMAN**

3/21/2020 04:39:58 am

We at EdgeNet (<http://edge-net.org/>) welcome everyone who continues to need a PlanetLab style testbed. Deploy Docker containers with Kubernetes on nodes worldwide.

REPLY

**SHENG XIAO**

3/31/2020 11:17:51 am

It was more than a decade ago when my PhD supervisor told me to try out ideas on planet-lab. Though I did not use it much, it was an eye-opening experience to see such a global effort could be made from pure curiosity.

Now I am a faculty member and teaching computer networking every year. It is sad to say good-bye to the planet-lab services. I'll tell the story in my slides.

Thank you Larry. Thanks to everyone who made planet-lab possible.

REPLY

**FAIYAZ AHMED**

4/8/2020 09:07:38 pm

I was an operator on PL way back when (2006-2009 IIRC). It was a privilege to work with so many fantastic people on such an incredible project. And, like Larry said on my first day, I'd "learn more about systems and networks than anyone would ever want to know."

That time holds a special place in my heart. I'm so glad to have met so many of you and am grateful to have had the opportunity.

And a special thanks to Larry. We really were a wild bunch and somehow you managed keep us from breaking the internet. It was life changing and I just wanted to say thanks for everything.

And that guy with the sheriff was probably one of my favorite stories. There are definitely more, but better shared over beer at Triumphs.

REPLY

**LAKSHMI SANKARAN**

10/3/2020 05:35:45 am

Does shutting down of the planetlab infrastructure means the already existing workload traces from it become an illegal or rather a invalid data for experiments? Please suggest

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