

# LinuxCon North America

By Jon “maddog” Hall

**A**t the recent LinuxCon North America [1] in Vancouver, Canada, we celebrated the 20th anniversary of the start of the Linux Kernel project. Many of the best developers in the community were there, and we had “gala” events celebrating the past 20 years. Although the Linux kernel tends to dominate aspects of computing such as high-performance computing, embedded systems design, and servers, several people acknowledged that we still have not enjoyed “the year of the Linux desktop.”

This particular conference stirred up a lot of retrospection. Jon Corbett, who normally does a bang-up job telling us what is new in the Linux kernel, went back a bit in time and showed some of the early timeline issues that almost derailed kernel development. Fortunately, the community was ready to tackle those issues, which tended to be more procedural and structural, concerning how to scale development, than technical, concerning how to scale the kernel itself.

Dr. Irving Wladawsky-Berger of IBM gave a fascinating view into some of the early meetings that IBM had on the Linux kernel and the decisions that led them to invest that first billion dollars. What was really news to me was the effort IBM made to investigate and view Linux from every angle before making that decision, and one of the main considerations was that “Linux would run on everything.” IBM realized that the community would make Linux run on everything from the very smallest computers to the very largest, and to them, this created real value for the OS that could not be matched by any other operating system.

Richard Fontana, a lawyer for Red Hat, gave a good presentation of legal issues that have plagued the Unix, and then the Linux, community since the earliest days. I was a little disappointed that, although he had a very good description of Unix legal issues and why distribution of Unix source code was impractical because of AT&T source code licensing, he did not mention the commercial versions of Unix and their place in the ecosystem.

Jim Zemlin, Executive Director of the Linux Foundation, moderated a panel that included me, Dan Frye of IBM, and Eben Moglen of the Software Freedom Law Center. We reminisced about some of the early days of Linux, but with a view

toward the next 20 years. Eben waxed long on the issue of software patents, and some people thought his message was a little “dark.” I tend to think that Eben’s message was not dark enough, and people have to double or quadruple their efforts to get true patent reform before it is too late.

All of the keynote speeches were streamed live on video, and if you go to the LinuxCon site and sign up for video streaming, you will be able to watch them.

Two of the main sessions I found very interesting had a common theme addressing performance.

The first session was by Khoa Huynh of IBM. He was benchmarking storage in KVM-based clouds because a customer complained of poor performance. By modeling the customer’s systems, he determined that writing small chunks of data was causing the underlying disks to write back huge blocks for every small write that was issued. When the customer wrote larger chunks of data at one time, they did not notice the problem. This was a fine example of good engineering.

I also appreciated a talk by Ted Ts’o of Google about the continuing value of the ext4 filesystem. Ted presented the argument that although other filesystems, such as Btrfs, SquashFS, OCFS, and XFS, might get a lot of press, ext4 has stability, less complexity, and smaller code size and is easier on hardware than some of the other filesystems; therefore, it still has a place in the scheme of things. Ted gave a very convincing discussion about how excessive amounts of disk head movement caused by smaller block sizes and more pointers would turn smiling faces into frowning faces (literally with “Smileys” on his slides) by stacking up seek requests very rapidly.

For those of you who could not attend LinuxCon North America, you can still join in the festivities with LinuxCon Europe [2] and LinuxCon Brazil [3] later this year. ■■■■

## INFO

- [1] LinuxCon North America:  
<http://events.linuxfoundation.org/events/linuxcon>
- [2] LinuxCon Europe:  
<http://events.linuxfoundation.org/events/linuxcon-europe>
- [3] LinuxCon Brazil:  
<http://events.linuxfoundation.org/events/linuxcon-brazil>

