

conference **REPORT**

BSDCan and Dev Summit by Christian Schwarz

This year I attended my first BSDCan conference, after having enjoyed the last two EuroBSDCons in Belgrade and Paris. Luckily, my talk proposal on zrepl was accepted and thus flight and accommodation costs were covered.

As Benedict Reuschling (bcr@) and I only live ~100km apart, we coordinated travel, which commenced on June 1 with a direct flight from FRA to YOW. At FRA, we also met Kirill Ponomarev (krion@) and enjoyed the amenities of the Air Canada lounge. After pain-free border control and a short taxi ride, we made ourselves comfortable at U90 and attempted to stay awake to fight the jet lag.

The following day included sightseeing in Ottawa, great food at Byward Market, and a bus ride around the city. Incidentally, it wasn't until we were already well into the tour that we realized sun screen or a hat could have been put to good use under the almost cloud-free sky.

Benedict and I had coordinated with Dru Lavigne and Warren Block to visit Montreal via the train from Ottawa. With beautiful weather on the first day, we walked around town to the old port and later took a cab up Mount Royal where we enjoyed a nice view of the city. The following day was a demonstration of how quickly Montreal weather can change. Under heavy rain, we had breakfast in a cafe and stayed inside to hack on our projects while waiting for the rain to stop. Sadly, the weather would not change, and so we finally wandered through the enormous collection of underground shopping malls in search of poutine, which I had yet to experience. My verdict: heavy stuff, but I can see its appeal during a cold Canadian winter.

Back in Ottawa, I used the Wednesday before the Dev Summit to finish my slides and rehearse the talk. In the evening, people started flooding the Royal Oak, where I got to discuss (and resolve!) a `sysrc(8)` issue with Devin Teske.

Thursday and Friday was Dev Summit: In contrast to what I had experienced in Paris the previous autumn, this one involved a little less hacking and more project coordination, such as the updates from core@ and secteam@ as well as the discussion of the FreeBSD 12 roadmap. I also attended the OpenZFS working group—the topic I am currently most interested in. We had many great discussions and I suggested some of my ideas to improve usability of ZFS with other automated tools. Although the evenings of both days were spent at the hacker lounge, there was arguably more discussion, planning, and socializing

than getting actual commits done. However, I can write code the other 51 weeks of the year, so that was just fine!

The actual conference began on Saturday. Although I missed Benno Rice's keynote, I attended Sara Hartse's excellent talk on fast clone deletion in ZFS, followed by Rod Grimes's talk (or rather discussion) on possible performance improvements for ZFS send and receive. After lunch, I listened to Brooks Davis's talk on a possible replacement for `mmap` and Sean Chittenden's presentation on hosting virtual private clouds powered by `bhyve` / `FreeBSD`, which offered some insight into the kernel drivers and interfaces they had to modify to enable more than 30Gbps tunneled network throughput and better integration into their control plane.

Day 2 started with Matt Ahrens's talk on ZFS device removal and `raidz` expansion—both highly anticipated features in the community. Subsequently, I attended Stefan Grönke's talk on `libiocage`, the Python library that started as a rewrite of `iocage` internals, but now provides a pythonic, high-level abstraction over jails. After lunch, I started getting nervous about my talk, scheduled for later in the afternoon, but once I got over the initial mental hurdle, the talking, timing, and live demo went smoothly, and the subsequent comments from the audience gave me valuable feedback for the future development of `zrepl`. I stayed for Kirk McKusick's presentation on the evolution of FreeBSD governance, which was both an entertaining and informative overview of the project's organizational and social history and current structure. The closing session, including the renowned charity auction, put an end to the official part of the conference and was followed by a mass migration to the Red Lion, where the closing social event took place.

Needless to say, all the hallway-track time and the conversations at the various social events were just as valuable to me as the actual conference. I met many very nice people, learned a lot, and extended my to-do wish-list for FreeBSD by factor 2x. I will certainly try to come back next year!

Christian Schwarz is a computer science student, currently pursuing his master's degree in Karlsruhe, Germany. His main interests are operating systems and compiler technology, although he is drawn to all kinds of software systems. He is the developer of `zrepl` (<https://zrepl.github.io/>), a new-general-purpose solution for ZFS replication.