



new faces

of FreeBSD BY DRU LAVIGNE



This column aims to shine a spotlight on contributors who recently received their commit bit and to introduce them to the FreeBSD community. In this month's column, the spotlight is on **Breno Leitao** who received his src bit in May.

Tell us a bit about yourself, your background, and your interests.

• **Breno:** I am passionate about open source since I started using it in 1997. Until that time, I was a MS-DOS/Windows user who had very little control of my own machine. After the discovery of open source, I started to see computers from a different viewpoint, which blasted my mind and I was finally able to understand how a computer works, and I felt, for the very first time, that I really had control of my own machine. At that point, I didn't have the skill to change many things at depth, but I had the most important thing, the source code to do so.

I started using different distros of Linux and BBSes and I was a happy guy. Around 1999, I owned a 486 DX 66MHz, the Internet was still new, and downloading music from the Internet was one of the coolest things you would use the Internet for. When I was finally able to download my first MP3 file from the Internet using the PPP protocol, I discovered that my system was not fast enough to play an MP3 file without breaking up.

I didn't feel depressed with this discovery and decided to try to do anything to be able to play an MP3 file on the only computer I had access to. Reading things on the Internet, I heard about a super fast OS named FreeBSD.

How did you first learn about FreeBSD, and what about FreeBSD interested you?

• **Breno:** In order to be able to play an MP3 file in my computer, I decided to wipe out my system and install FreeBSD. It was version 4 at that time,

and I thought it would be a good idea to test something new. After the installation, I started the MP3 decoder, and no luck, the music was still breaking up on this new OS.

At that time, I decided to dig further and look into the source code. Of course I was not able to understand much at that time, but I was able to understand something very important that I was not aware of until that point. The kernel was built using major features that you can disable if you do not use them.

I could reconfigure my kernel, avoiding code that I was not using, aiming to speed up the MP3 player.

After playing with it for a while, doing some recompilation with different compiler flags, removing multi-user capability, I was finally able to play the MP3 I had downloaded. That was a great moment in my life!

From that day on, I started to play with other BSDs, and I moved to NetBSD for a while since it was the only OS I found that ships all the packages in the archive on 6 CDs. So, I downloaded and burned the ISOs at the university to have the full archive at home without the long download time.

At that same time, I found the first edition of *The Design and Implementation of the FreeBSD Operating System* at the university library, and I was amazed. I rented it and started to read it, but I didn't have the OS concepts to fully understand it. Got it again and again until I bought it and, 15 years later, I am still reading it.

How did you end up becoming a committer?

• **Breno:** After I left the university I was quite fortunate to find a job at IBM to do OS development, mostly Linux on Powerpc. After several years using mostly Linux, I decided to try FreeBSD on the Power systems. That brought me the joy I used to have when I was a kid, and after some hacking I got FreeBSD running on the pSeries platform, and the BSD flame was rekindled.

After a while, I talked to the FreeBSD/powerpc maintainers and they were so cool and patient with my silly questions/code that I finally found

myself at home. Feeling at home was quite important for me to be able to start sending patches. In one hacking night I was invited by Justin Hibbits and Nathan Whitehorn to become a committer. Even before that day, they had been very patient with me and I would like to take this opportunity to say "Thanks."

How has your experience been since joining the FreeBSD Project? Do you have any advice for readers who may be interested in also becoming a FreeBSD committer?

• **Breno:** The experience is unique, mainly because the developers are an IRC message away, which is fascinating to me. I can ping the guy who wrote any specific code and ask (mostly) silly questions, and they've been very cooperative, and so far, very helpful. Having senior developers be accessible and supportive is a rare experience for me, thus, the uniqueness of the project.

I am not very good at giving advice, but the fact that I've pestered the Powerpc maintainers with questions (all day sometimes) was key for me to be able to solve important problems, and be asked to become a committer. •

DRU LAVIGNE is the Director of Storage Engineering at iXsystems, author of *BSD Hacks* and *The Best of FreeBSD Basics*.



Write For Us!

Contact Jim Maurer
(jmaurer@freebsdjournal.com)
with your article ideas.

ZFS experts make their servers **ZING**

Now you can too. Get a copy of.....

Choose ebook, print, or combo. You'll learn to:

- Use boot environment, make the riskiest sysadmin tasks boring.
- Delegate filesystem privileges to users.
- Containerize ZFS datasets with jails.
- Quickly and efficiently replicate data between machines.
- Split layers off of mirrors.
- Optimize ZFS block storage.
- Handle large storage arrays.
- Select caching strategies to improve performance.
- Manage next-generation storage hardware.
- Identify and remove bottlenecks.
- Build screaming fast database storage.
- Dive deep into pools, metaslabs, and more!

Link to: <http://zfsbook.com>



WHETHER YOU MANAGE A SINGLE SMALL SERVER OR INTERNATIONAL DATACENTERS, SIMPLIFY YOUR STORAGE WITH **FREEBSD MASTERY: ADVANCED ZFS**. GET IT TODAY!