

FreeBSD Foundation June Update



The
FreeBSD
FOUNDATION

Dedicated to supporting the
FreeBSD Project and Community

Upcoming Events

[USENIX ATC '15](#)

July 8-10, 2015
Santa Clara, CA

[vBSDcon 2015](#)

September 11-13, 2015
Reston, Virginia

[womENCourage 2015](#)

September 24-26, 2015
Uppsala, Sweden

[EuroBSDcon 2015](#)

October 1-4, 2015
Stockholm, Sweden

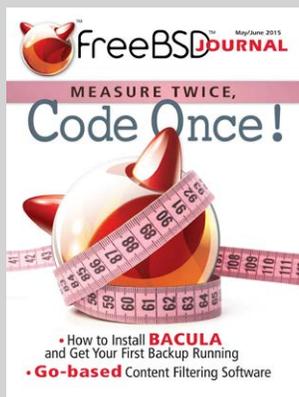
[BSDCon Brazil 2015](#)

October 9-10, 2015
Fortaleza, Brazil

[Grace Hopper 2015](#)

October 14-16, 2015,
Houston, Texas

FreeBSD Journal



The May/June issue of the
FreeBSD Journal
is now available! Don't miss

Message from the Executive Director

Dear FreeBSD Community Member,

Summer is in full swing and that energy that I spoke of last month is continuing to grow. The Foundation team is fresh off a very exciting and productive week in Ottawa, Canada. We have many new important projects on deck and we can't wait to see them all to come fruition. In the meantime, please take a moment to see what we've been up to during this very busy month including, the latest issue of the *FreeBSD Journal* (over 9000 subscribers and still growing), updates on Foundation-sponsored projects, conference recaps and more! Thank you again for all you do, and enjoy our latest update!
Deb

Development Projects Update

We had lots of activity on the Foundation-sponsored FreeBSD/arm64 porting project to report on in June. Platform stability is shaping up well, with



load tests running on all 48 cores of Cavium's ThunderX processor. Zbigniew Bodek of Semihalf gave a brief demonstration during the ARMv8 working group at BSDCan in Ottawa. Andrew Turner presented a talk on the history and current status of FreeBSD/arm64 at BSDCan as well.

Late in the month Andrew fixed a longstanding issue that resulted in occasional misoperation in userland -- most notably when compiling software with Clang. With this fixed we're able to move on to self-hosted base system builds, as well as packages. As I write this, basic packages such as the pkg package management tool, the Perl scripting language, and the GNU make (gmake) software build tool build successfully on FreeBSD/arm64.

The Foundation is supporting the FreeBSD/arm64 porting effort in order to build a stable base so that others in the community can work on their own areas of interest. We're happy to see interest in FreeBSD/arm64 continuing to spread beyond the direct involvement of the FreeBSD Foundation. At BSDCan Julien Grall reported on FreeBSD as a Xen

articles on how to install Bacula, Go-based content filtering software, and more. Not a subscriber? [Sign up](#) today!

See what others are saying about the Journal:

“Awesome! This is the best way to popularize FreeBSD!!” San Jose, California

“I’ve found it really practical, and great reading...it caters to all levels of users.” Brooklyn, NY

Why Choose FreeBSD?



“More than 30 million [Netflix](#) streaming members around the globe watch more than a billion hours of movies and TV shows each month. In the US, Netflix video streaming accounts for a third of peak downstream Internet traffic. Netflix created Open Connect, a single-purpose content delivery network, to help deliver these petabytes of data.

The main component of Open Connect is the Open Connect Appliance, a small-footprint network streaming device. The Open Connect Appliance is a 4U Intel-based server that is designed to economically maximize storage density in a space and power footprint that is ideal for both ISP data centers and metro-area

guest (DomU) on both 32- and 64-bit ARM. Ruslan Bukin at the University of Cambridge added performance monitoring counter (hwpmc) support and has DTrace support in progress. Stacey Son implemented initial QEMU user mode support for FreeBSD/arm64, which is being used by Sean Bruno to build arm64 packages in the FreeBSD cluster.

Ed Maste continued with updates to the ELF Toolchain tools in the FreeBSD base system, most notably incorporating a set of fixes from the upstream project to fix issues with the strip tool. This fixed a number of ports build issues in FreeBSD 11-CURRENT.

Konstantin Belousov continued with a large number of virtual memory and file system fixes, while continuing to work on the DMA remap (DMAR) support.

Edward Napierala committed a number of bug fix merges to the stable/10 branch for inclusion in FreeBSD 10.2, and continued investigation of a project to support runtime switching of the root file system.

Foundation employee and FreeBSD release engineer Glen Barber started the FreeBSD 10.2 release process, with the branch entering “code slush.” The release is expected at the end of August. Glen also integrated Microsoft Azure image uploading into the build process, so snapshots and releases will automatically be available in Microsoft’s cloud hosting environment. Glen and the rest of the FreeBSD Project Cluster Administration Team have also been migrating services to the new hardware recently purchased by the FreeBSD Foundation and installed at New York Internet.

-- contributed by Ed Maste

Conference Recap: BSDCan 2015 and Ottawa FreeBSD Developers Summit



Two weeks ago, members of the Foundation team joined hundreds of BSD developers at the FreeBSD Developers Summit and BSDCan 2015 in Ottawa Canada. As a sponsor of both events, we took the opportunity to meet with developers from around the globe to find out directly what more the Foundation can do to help move the Project forward, some of which you can read more about in the fundraising update below. We also held a vendor summit and gave an update on the Foundation and a talk on FreeBSD Advocacy. We also took time to celebrate our 15th Anniversary (complete with cake!).

The Foundation was pleased to provide 13 travel grants to allow developers to attend BSDCan. Some of those trip reports are now available on the [blog](#).

This year’s BSDCan was the largest on record. Videos from selected sessions are available [here](#).



network interchanges.

The Open Connect Appliance runs on FreeBSD 9. Netflix picked FreeBSD 9 because it is a high performing, low-maintenance and reliable operating system that is supported by major hardware vendors. FreeBSD 9 provides a foundation of reliability, performance, and hands-free manageability. Combined with NGINX, a light-weight and high performance Web server, FreeBSD 9 provides a simple but powerful solution that is capable of serving tens of thousands of simultaneous video streams across multiple 10Gbit fiber optic links.

Beyond its technical strengths, FreeBSD comes with an outstanding ecosystem of developers, vendors, and users who openly share expertise, talent, and technical improvements. Netflix has embraced this community and is committed to giving back its bug fixes and enhancements, thus completing the circle of community collaboration.

-- David Fullagar, Director of Content Delivery Architecture, Netflix

Thank you to everyone who came by the table to chat and make a donation. Your support is imperative to our success and the success of the Project!

-- contributed by Anne Dickison

Fundraising Update: Community Involvement

I just returned from a week in Ottawa, running our annual board meeting, attending developer summit and conference sessions, and spending lots of time talking to FreeBSD contributors. The energy at this conference was boundless and the attendees were inexhaustible. But, here's one of the coolest things that happened. While I was giving a short presentation on the Foundation during the opening session, I showed a slide on the advocacy and education work we are supporting. After the second bullet, "Recruiting women to the Project," was posted, we received an astounding round of applause. The community enthusiasm continued as I talked about the classes, workshops, FreeBSD Boot Camps for women and girls, and after school programs, that we are working on to teach FreeBSD. The number of attendees that stopped to talk to us about this was incredible. People are excited to help not only by connecting us with people at their universities, but also to teach some of these classes.



The passion and energy of the FreeBSD community is amazing. This is why FreeBSD will be around for a long time, and the Foundation will be here to continue and increase this support. In addition to growing our project development work, we are also greatly increasing our advocacy efforts, to not only spread the awareness of FreeBSD, but to recruit more people to the Project. We're helping to make the process easier to get involved in the Project. And, we're putting a big effort into helping to create and provide FreeBSD educational material for universities, one-day to 5-day workshops, and high school and middle school students.

We will do this by increasing our fundraising efforts every year. Right now, we've raised \$356,000, towards our goal of \$1,250,000+. We kicked off our Summer Fundraising Campaign, recently at BSDCan. We raised around \$3,000 from 90 donors, during the two-day conference. It was exciting for the donors, because we raffled off 2 each of the following books, generously donated by the authors: FreeBSD Mastery:

ZFS, FreeBSD Mastery: Storage Essentials, by Michael Lucas, and The Design and Implementation of the FreeBSD Operating System, 2nd Edition, by Kirk McKusick, George Neville-Neil, and Robert Watson. The grand prize was a Netgate RCC-VE 4860, generously donated from Netgate. Plus, donors got to show off that they were a donor by proudly wearing their I Donated Today stickers.

As much fun as we had at BSDCan, the reality is that we need your help to reach our goals. We need you to support the work mentioned above, as well as, all the other work we do such as purchasing equipment for the FreeBSD infrastructure, protecting FreeBSD IP, supporting release engineering, and supporting BSD-related conferences around the world. You can help by making a donation today, asking your company to make a donation, and spreading the word about what we do on social media.

If everyone who received this newsletter made a donation of \$10 or more, we'd have over 4000 donors, and raise over \$40,000. If everyone who subscribed to the FreeBSD Journal made a small donation, we'd have over 9000 donors! Wouldn't that be a positive reflection on the Project and the good work that the community is doing? I certainly think so! Please spread the word, tell people why you love FreeBSD, and ask your friends to support your Project. It's easy – just click [here](#) to make your donation today.

Thank you for your continued support!

-- contributed by Deb Goodkin

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