

# FreeBSD Foundation February Update

Supporting the FreeBSD Community  
World Wide for Over 14 years



## Upcoming Events

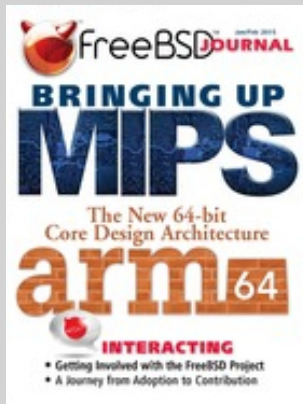
### [AsiaBSDCon 2015](#)

March 12-15, 2015  
Tokyo, Japan

### [BSDCan 2015](#)

June 10-13, 2015  
Ottawa, Canada

## FreeBSD Journal



The Jan./Feb. issue of the *FreeBSD Journal* is now available! Don't miss articles on Bringing Up MIPS, ARM64, Interacting with the FreeBSD Project, and more. Not a subscriber? [Sign up](#) today!

### **NEW! Open FreeBSD Journal Articles**

Have you ever wanted to read the *FreeBSD Journal*, but don't have a subscription? Now's your chance! The FreeBSD Foundation is releasing select

## Message from the Executive Director

As February comes to a close, I'm excited, not only because spring is near, but because the Foundation has so many great things in the works right now. From excellent progress on projects we're supporting to promoting FreeBSD at conferences, we're working at full speed towards meeting our 2015 goals. Be sure to check out the next installment of our "From the Trenches" series and take time to find out how to get involved in the upcoming #installFreeBSD fests. Each month, the support and ideas that come from you, the FreeBSD community, remind me why we work so hard to support such a vibrant and thriving community. Thank you for all you do, and enjoy our latest update!

Deb

## Development Projects Update

### PCI Express Hot-Plug Project Underway



PCI Express (PCIe) hot-plug is used on both laptops and servers to allow peripheral devices to be added or removed while the system is running. Laptops commonly include a hot-pluggable PCIe as either an ExpressCard slot or Thunderbolt interface. ExpressCard has built in USB support that is already supported by FreeBSD, but ExpressCard PCIe devices like Gigabit Ethernet adapters and eSATA cards are only supported when they are present at boot, and removal may cause FreeBSD to crash.

The goal of this project is to allow these devices to be inserted and removed while FreeBSD is running. The work will provide the basic infrastructure to support adding and removing devices, though it is expected that additional work will be needed to update individual drivers to support hot-plug.

This project is building on proof-of-concept code that already exists in the FreeBSD project's perforce repository, and supports simple UART

articles from previous issues.  
Check out the [first article](#).

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

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## Why Choose FreeBSD?

“The pfSense® project provides  
a free, Open Source distribution  
of FreeBSD, tailored for use as  
a firewall, router and VPN  
platform. The project is  
sponsored and run by Netgate  
and includes a long list of  
related features and a package  
system allowing the end-users  
to add even more functionality.

From its beginnings a decade  
ago, pfSense has been based  
on FreeBSD. Our latest  
release, pfSense 2.2 is based  
on FreeBSD 10.1-RELEASE.

Other parts of the pfSense  
system derive from the  
FreeBSD ports collection.

Together with FreeBSD, these  
components have allowed  
Netgate and the rest of the  
pfSense community to build the  
pfSense platform into an  
system of security tools that  
secures the networks at over  
250,000 locations. Like  
FreeBSD, pfSense is BSD  
licensed. This licensing has  
enabled other organizations  
including VMware and Avaya to  
adapt the pfSense source code

devices at present. Outstanding tasks include accommodating suspend  
and resume, and adding support for run-time updates to FreeBSD’s  
device tree infrastructure.

Thunderbolt support is not included in the initial project but will be  
investigated for follow-on work.

*-- contributed by John-Mark Gurney*

## FreeBSD on the POWER8 Platform

FreeBSD has been long known as a work horse for Intel based machines  
and by far the most popular end-user platforms today use 32- and 64-bit  
Intel CPUs. But FreeBSD runs on a variety of other platforms and does  
so behind the scenes without much recognition. The MIPS platform runs  
a variety of well known routing and firewall products and the ARM  
platform can be found in a lot of critical time-keeping devices. In fact,  
there are active development communities in FreeBSD working on  
features and platform support for hardware that isn't what you'd buy in  
your server, laptop or tablet, but may arguably be just as important.

One of the most important aspects of porting to new hardware is the  
availability of said hardware. It doesn't matter how interested the  
developers are in a platform - if the hardware isn't easy to acquire, then  
the port likely won't happen. The POWER platform is a great example of  
this - there's plenty of high-end servers from IBM and other companies  
that incorporate POWER CPUs in some staggeringly large computers -  
however, since the price is also staggeringly high, it's very unlikely that a  
community effort is going to make any progress.

When Tyan and the OpenPOWER Foundation announced their  
POWER8 evaluation/development server, the FreeBSD POWER  
developers were excited. It started with an email asking about supporting  
and offering access to POWER8 hardware, and when it was discovered  
that the servers were available and reasonably affordable, a plan was  
hatched to acquire one for the FreeBSD project. The FreeBSD  
Foundation quickly assisted in its purchase, the order was submitted and  
the rest fell into place.

The initial bring-up under the hypervisor was done in under a day, and  
after the usual driver development and platform debugging, FreeBSD-  
HEAD was soon running nicely in the hypervisor. There has been quick  
progress on developing new drivers, fixing virtualisation issues and  
working on much more scalable POWER memory management. We  
expect the next major release of FreeBSD will work out of the box on the  
new POWER8 platform and will scale just as well as FreeBSD does on  
the Intel platforms.

So, thank you to Nathan Whitehorn for the wonderful effort in bringing up  
FreeBSD on the POWER8, and the FreeBSD Foundation for quickly  
helping acquire the hardware necessary to make this happen.

*-- contributed by Adrian Chadd*

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## FreeBSD at FOSDEM '15: Event Recap

into their commercial offerings. The BSD License allows us to both use and contribute code freely, and allows both our customers and the consumers of FreeBSD to do the same.

Netgate is a proud Silver Sponsor of the FreeBSD project. Without the FreeBSD community and the contributions of its members and benefactors, the pfSense project would not continue to thrive as it does today. Netgate is committed to giving back its bug fixes and enhancements and continuing its financial assistance of the FreeBSD project. We encourage anyone so-inclined to donate to the FreeBSD Foundation as well. Doing so helps to increase the evolution and the popularization of FreeBSD for everyone."

-- Jim Thompson, Chief Technology Officer, [Netgate, Inc.](#)

# FOSDEM'15

FreeBSD Foundation Board Member, George Neville-Neil attended FOSDEM '15. Below is his event summary:

FOSDEM was held Saturday, January 31 - February 1, 2015 in Brussels, Belgium. The site is a large University and FOSDEM uses several of the buildings. There are at least 5000 attendees, ranging from college age to, well, older than myself, but the core demographic is 20-30 year old developers from all over Europe. As FOSDEM is an open conference it does not do registration, one just "shows up" and away you go.

As you can see from this year's [schedule](#) there are several large and many small tracks. The small tracks are in the developer rooms (BSD, MySQL, Ada (!?), Lisp etc.) I was in the Time Track, along with Poul-Henning Kamp, and three other folks, which meant that FreeBSD was well represented in that track, and it's a tech savvy crowd so we didn't have to explain what FreeBSD is, which is nice. Poul-Henning said that FOSDEM was more of a country faire than a conference, and in a way he's right. A lot of people come for the hallway track and to see and meet folks in person. "There are more core team meetings at FOSDEM than at any other conference." was another quote from PHK.

The table area covers many different groups and projects: Firefox, KDE, Software Conservancy, about 10-15 in all and is very very crowded. All the tables have cool schwag. While, FreeBSD did not have an official table this year, we were able to place materials in the BSD Developer Room. We are, however, on track to have a table in 2016. FOSDEM is an excellent event, and we look forward to participating next year.

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## FreeBSD From the Trenches

This month's story comes to us from UNIX System Administrator, Glen Barber, who reminds us why tasks that can be scripted should always be scripted. Check out [ZFS](#), [and How to Make a Foot Cannon](#), and don't forget, if you have a story you'd like to share, please [email](#) us.



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## Call to Action: Plan an #InstallFreeBSD Event



Two weeks ago, Trollaxor, aka Grant Hayes, sent a challenge to the FreeBSD Community: Help increase awareness of your favorite operating system by holding #installFreeBSD events in your locales. Installfests are an excellent way to, not only introduce people to FreeBSD, but show them why they should be using it. The goal is to have the events take place the

week of March 30, and, as he points out, should be planned ahead of time and open to the public to maximize the impact of sharing FreeBSD with the wider world.

The Foundation is pleased to work with Grant to move this call to action forward. Please take a moment to [read more](#) about how you can help and let us know your plans so we can make sure it reaches the widest audience possible.

Thanks to Grant's initiative, and with your help, we can bring the power of FreeBSD to an even bigger community. Start planning today!

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## Fundraising Update: We're On a Roll!

I can't believe it's almost March. The days are slowly getting longer, and soon it will be spring! The extreme winter we've experienced this year has certainly affected some of our operations. But, that hasn't stopped us from kicking off new projects, increasing our FreeBSD marketing efforts, supporting release engineering, producing another informative and interesting FreeBSD Journal issue, and accelerating our fundraising efforts.



First, I want to send out a big thank you to everyone who made a donation last year. I am happy to report that we ended up raising \$2,425,345 from 1662 community investors. And, we spent \$877,412 towards the Project, fundraising, and administrative efforts. You can find out more detailed information in our financial reports [here](#).

We began 2015 with a generous *Iridium level* donation from [NetApp](#), and five *Silver level* donations from [Cavium](#), [Netgate](#), [Tarsnap](#), [VMWare](#), and [XinuOS](#). These early donations have helped us raise \$189,000 so far this year. One advantage of making these donations early, is that their logos will be on our website, and rotate in our footer for the whole year! It makes an obvious statement to the FreeBSD community that they are supporting you.

I also want to thank all of the community investors, 172 of you, who have already made a donation this year. Your early support has helped set the tone for an astounding fundraising year.

As you all know, we fundraise all year long, but we will kick off the big Spring Fundraising Campaign soon to raise awareness of what we are doing, and encourage FreeBSD advocates around the world to help us spread the word.

Since our last update, here are some highlights of what we have accomplished to help the Project and the Community:

- Sponsored a new project to add PCIe hot plug support.
- Continued supporting the FreeBSD/arm64 project.
- Committed to being a Platinum Sponsor for AsiaBSDCon
- Committed to being a Platinum Sponsor for BSDCan.
- Committed to sponsoring the Ottawa Developer and Vendor Summit.
- Approved three travel grant applications for SCALE, AsiaBSDCon, and BSDCon.
- Produced the Jan/Feb issue of the ever popular and informative FreeBSD Journal .
- Promoted FreeBSD at the FOSDEM, SCALE, and FAST conferences.
- Supported FreeBSD Release Engineering efforts.
- Supported efforts for putting on the upcoming AsiaBSDCon conference.
- Recruited more FreeBSD contributors to give FreeBSD related talks at conferences.
- Supported facilities that host FreeBSD equipment.
- Continued protecting FreeBSD IP. This included reviewing trademark permission requests.

This is just a sampling of what we've worked on this past month, and you will find write-ups on some of these items in this newsletter.

Also, in case you missed it last month, here's a summary of our 2015 fundraising goals, and some of the areas we plan to increase our support:

*Our fundraising goal this year is to raise \$1,250,000+ from over 2000 community investors. You can see our 2015 budget [here](#).*

*Areas that we've identified that we want to increase our support:*

- *Funding more project development.*
- *Supporting and improving the FreeBSD security advisory triage, notification and release process.*
- *Increasing our FreeBSD marketing efforts. Efforts include providing more marketing literature to educate people on FreeBSD; recruiting more people to the Project; promoting FreeBSD and The Foundation; helping fundraise; and encouraging more testimonials. This not only includes assisting advocates in the US, but also offering this material in multiple languages to FreeBSD advocates who represent the Project at conferences around the world.*
- *Helping create New to FreeBSD tutorials, presentations, and literature.*
- *Providing resources and travel grants to help get more FreeBSD representatives to conferences around the world to give presentations on FreeBSD.*
- *Funding more FreeBSD research projects.*

Some of the initiatives listed above have already started. But, we still have a lot of work ahead to accomplish these goals. We need your help to not only make a donation, but also spread the word about FreeBSD. Use social media to talk about what you are doing with FreeBSD. Are you a user? Tell everyone what's great about FreeBSD. Are you a developer? Tell the world what you are working on, and how this will help

FreeBSD. We want you to tell your stories, and let people know what a great operating system and community this is!

Please help us continue our support of the FreeBSD Project and community by making a donation today. Please consider making a donation today. It is SO easy! Just click [here](#).

We're counting on you to show the world, that we have over 2000 community investors who care about FreeBSD.

Thank you for everything you do to make this the best operating system and community in the world!

-- *contributed by Deb Goodkin*

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