Message from the Executive Director

Dear FreeBSD Community Member,

You are probably wondering why we are sending out our quarterly newsletter more than a month early. Well, our marketing director is expecting a couple of future FreeBSD contributors soon, and I want to say, we are hopeless in our writing without her, but I won’t say that, because she will edit that out. Before she heads off on maternity leave, we wanted to highlight some of our accomplishments over the past few months.

As I reflect back on what we’ve done to support FreeBSD over the past few months, I’m amazed at how much we really accomplish. We are able to do this because we not only have a giving community to fund our work, but we have a team of people who are passionate about FreeBSD and are willing to put in the extra effort to support the community they love.

In this newsletter, we are covering recent and future events, highlights of the latest work from our two interns who are ending their co-op terms with us this month, and more. Please take a few minutes to relax and check out what we’ve been doing to support FreeBSD!

Deb

August Development Projects Summary

As I described back in the May issue of the Foundation newsletter, the Foundation employed Siva Mahadevan and Guangyuan (Charlie) Yang, two co-operative education students from the University of Waterloo over the summer term. In this update I’ll highlight a few more of Siva and Charlie’s projects, and touch on what's coming next.

Previous updates mentioned continuous integration projects developed by both students (in the May update), Siva’s work on the capsicum test
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Why Choose FreeBSD?

"Stormshield leverages off FreeBSD to deliver high performance UTM (Unified Threat Management) and Next-Generation Firewall technology since 1998. We continuously show our support for FreeBSD via technical contributions and sponsorship; as a company we are totally committed to the on-going success of this great community."

– Fabien Thomas, Chief Innovation Officer, Stormshield

Siva has a number of projects in progress that are undergoing final stages of review and integration into FreeBSD. First is the addition of msdosfs (FAT) filesystem support to the makefs userland file system generation tool. This capability will be very useful for generating installer and virtual machine images for EFI-based PCs and embedded boards, all of which place at least a portion of their bootloader components on a FAT filesystem. With the knowledge gained in this project Siva is looking into issues in the kernel msdosfs filesystem support as reported by members of the FreeBSD community.

Siva is also addressing a few longstanding limitations in previous Foundation-sponsored and community work on the vt(4) system console. This includes adding the ability to control the scrollback history size, control over the system cursor, and other issues.

As a final project this term Siva ported the Clang undefined behavior sanitizer (ubsan) to the FreeBSD kernel. The undefined behavior sanitizer is implemented in the compiler and a companion runtime support library, with the latter previously available in FreeBSD only for userland. Ubsan provides run-time detection for behavior undefined by the C standard, such as integer overflow, and can help identify a source of common security issues.

For the upcoming fall term (September through December) Charlie will be starting a co-op placement at another company, and Siva returns to Waterloo for the second half of the third year of his Computer Science program. Both students expect to continue with some more work on FreeBSD after the work term ends. Next month two new co-op students will join the Foundation's Kitchener-Waterloo office, and I look forward to
sharing the projects they take on.

-- contributed by Ed Maste

2017 Fundraising Update

As we approach the fall fundraising season, I wanted to give you an update on how we are doing with our fundraising efforts; what your contributions have allowed us to do to support FreeBSD; and some of the areas where we’d like to increase our support.

First, I wanted to send out a heartfelt thank you to an anonymous donor, who generously donated at the Uranium Level ($250,000 or more). This donation puts us at $738,402, towards our goal of raising over $1,500,000!

Second, as you may know, our work to support the FreeBSD Project and community worldwide is 100% funded by individual and corporate donors. In this newsletter, we’ve highlighted some of our recent efforts, to give you an idea of how we are using your donations. In addition, here is an overview of how your contributions have helped FreeBSD over the past few months.

Your financial support has allowed us to:

- Advocate and educate about FreeBSD at more events around the world, including presenting the “Advantages of FreeBSD” in China, teaching about security using FreeBSD in Africa, running hackathons in Germany, and sponsoring conferences and summits around the world.

- Fund and oversee software development projects to accelerate improvements to FreeBSD, including adding support for nonvolatile memory (NVDIMM), updating the kqueue kernel subsystem for modern application needs, continuing development on FreeBSD’s permissively licensed toolchain, adding 64-bit inode support, adding and improving bhyve ARMv7 and ARMv8 support, and improving security and kernel reliability through stack guard page mapping and kernel undefined behavior sanitizer.

- Provide a full-time staff member to oversee the release of new FreeBSD versions, including FreeBSD 10.4, 11.0-RC3, and 11.1-RC1.

We believe that FreeBSD is the best open source operating system, and we’re proud to be able to support it with your help. Thank you again for your support, and we look forward to seeing you at an event near you soon!
engineering efforts, which resulted in FreeBSD 11.1 being released on time.

- Acquire and maintain hardware to improve the FreeBSD infrastructure.
- Facilitate collaboration between commercial users and FreeBSD developers.
- Protect the Project’s IP and provide legal support.

Third, by meeting and hopefully exceeding our fundraising goal, we will also be able to:

- Promote FreeBSD at even more computing conferences.
- Provide FreeBSD teaching material to introduce using FreeBSD as a platform for research, computing, education, and products.
- Fund more software development work – we are in the process of kicking off four new software development projects!
- Increase travel to attend conferences, meet with commercial users, and teach at universities.
- Improve developer tools and testing coverage.

As you can see, we’re well on our way to a very productive 2017. However, we truly can not do it without you. Please consider supporting the Project by making a donation today.

Finally, we recently launched our new Partnership Benefits Program to attract more corporate sponsors to help us achieve our goals. You can find out more about this program here. Please share this information with colleagues and companies you think may be interested.

Thank you again for your continued support!

-- contributed by Deb Goodkin

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**July/August 2017 Conference Recaps and Trip Reports**

From sponsoring events to attending conferences and awarding travel grants, the Foundation continued its mission of advocacy and fostering community in July and August. Over the past few weeks, members of the Foundation team and travel grant recipients shared their stories of attending events around the world. Below are just a few of the conference recaps and trip reports.

**BSDCan 2017** - contributed by Roller Angel
Prior to the first day of the Devsummit, I traveled to Canada by plane from Colorado. When I arrived in Ottawa, I dropped of my luggage at the place where I would be staying during the conference. I stayed in an AirBnb with the FreeBSD Foundation’s two new interns Siva and Charlie. Read more...

**2017 Essen Hackathon** - contributed by Benedict Reuschling
On the weekend of the G20 summit in Hamburg, a different and more peaceful meeting happened in the Linuxhotel in Essen, Germany. For the third time now, FreeBSD developers, users, and enthusiasts spent the weekend to hack on the operating system and exchange ideas. Read more...

**BSDCam 2017 - contributed by Michael Lucas**
Over the decades, FreeBSD development and coordination has shifted from being purely on-line to involving more and more in-person coordination and cooperation. The FreeBSD Foundation sponsors a devsummit right before BSDCan, EuroBSDCon, and AsiaBSDCon, so that developers traveling to the con can leverage their airfare and hammer out some problems. Yes, the Internet is great for coordination, but nothing beats a group of developers spending ten minutes together to sketch on a whiteboard and figuring out exactly how to make something bulletproof. Read more...

**FreeBSD in China at COPU and LinuxCon - contributed by Deb Goodkin**
In May of 2017, we were invited to give a talk about FreeBSD at COPU’s (China Open Source Promotional Unit) Open Source China, Open Source World Summit, which took place June 21-22, in Beijing. This was a tremendous opportunity to talk about the advantages of FreeBSD to the open source leaders and organizations interested in open source. I was honored to represent the Project and Foundation and give the presentation “FreeBSD Advantages and Applications”. Read more...

**Open Travel Grant Applications**
The Foundation recognizes the importance of bringing members of the FreeBSD community face-to-face to both further development of the Project and spread the word about FreeBSD. Travel grants are available to community members who need assistance with travel expenses for attending conferences related to FreeBSD development and advocacy. Please note: The travel grant policy has been recently updated. Please carefully review before submitting your application.

**BSDTW 2017: November 11-12, 2017, Taipei, Taiwan**
Application Deadline: September 26, 2017
Find out more and apply here.

-- contributed by Anne Dickison