# FreeBSD Journal Does Networking and Gets Even More Dynamic!

Here we are with Issue 3, and at this juncture we're making available a Dynamic Edition (DE) in addition to our mobile offerings. We've had several requests from folks who wanted to read the Journal on their web browsers and the DE makes that possible. When we first began the Journal, we wanted to make sure to provide an experience not just equal to, but better than, paper magazines or plain PDF files. Our design work went into making the Journal app a clean, clear, interesting and instructive experience. With two issues out the door and being read on devices everywhere in the world, we turn our attention to what we can do for folks who really prefer to consume their content in a browser. We think we've gotten the right mix of features from the app well integrated into the browser version, the Dynamic Edition. A one-year subscription (6 issues) to the Dynamic Edition is $19.99, the same price as the mobile app. For more information on the Dynamic Edition, go to the home page of the FreeBSD Foundation Website (www.FreeBSDFoundation.org). As the Journal evolves, everyone will see new features appear in both the app and DE versions. Our intent is to keep these two delivery vehicles feature locked so that no matter which version you're using, you get the same, high-quality experience.

In this issue, our feature articles are all about networking. It was the 4.x series of BSD releases—from the Computing Systems Research Group at UC Berkeley—that first put the TCP/IP protocols and the sockets API into the operating system, which gave rise to the modern Internet. FreeBSD has carried on its tradition of excellence and innovation in networking, which is why it is used in so many diverse products, including storage systems from NetApp and EMC/Isilon as well as routers from Juniper, all of which depend on having superior network software.

Today FreeBSD has a large number of interesting networking features for systems programmers as well as systems administrators, and we cover just four of these in this issue. Mark Johnston writes about using the DTrace framework to look at networking activity in the system. DTrace, originally written for the Solaris operating system, offers some very unique abilities for looking deeply into system performance and applying it to the networking sub-systems, leading to a far better understanding of what's going on "under the hood." Randall Stewart takes us through an excellent tutorial on how to use kqueues, which are often employed for building high-performance networking programs, although the kqueue system itself can be used with any type of I/O on the system. Michael Lucas, well known author on topics as diverse as mastering SSH and FreeBSD in general, writes about securing the Domain Name System (DNS) with DNSSEC. DNS is a critical piece of Internet infrastructure that must be secured if we are to continue to have a working Internet. Allan Jude returns with a piece on IPFW, one of the two firewalls available in FreeBSD. Allan explains how to write firewall rules so that you get the highest performance from IPFW. Michael Bentkofsky and Julien Charbon, both from Verisign, discuss scaling performance with TCP. Both are in a unique position to see problems at scale because of the amount of connections that Verisign serves every day.

The Journal's columnists provide another round of great updates on the world of FreeBSD, with Glen Barber covering what's up in the source tree, Thomas Abthorpe on Ports Report, and Dru Lavigne continues to do double duty with Events Calendar and her This Month column on the history of FreeBSD.

As usual the editorial board is thrilled that so many people have subscribed and are reading the Journal. We welcome your comments, questions and feedback at: feedback@FreeBSDJournal.com.

Sincerely, **FreeBSD Journal Editorial Board**