

For Your Information:

OpenBSD @ eurobsdcon_05



OpenBSD Related Talks and Tutorial at eurobsdcon_05

Tutorial: OpenBSD-based Wireless Networks (Reyk Floeter)

Implementing and deploying OpenBSD based wireless networks using hostapd, new drivers and the improved IEEE 802.11 framework

- IEEE 802.11 basics
- Implementation in OpenBSD 3.8 and -current
- Setting up basic wireless operation
- Running OpenBSD accesspoints
- Using hostapd(8)
- Using the new, powerful and State-of-the-Art features of hostapd(8)
- Practice: Implementing, deploying and using a wireless network with OpenBSD/soekris-based accesspoints and a centralized OpenBSD network booting and management server.

Reyk Floeter is a co-founder of .vantronix — secure systems, a company specialized in Open Source security in Hannover, Germany. He is the chairman of the EICAR Task Force on Wireless LAN Security and work as an OpenBSD hacker on improving the free wireless support.

Talk: Signal Handlers (Henning Brauer, with Wilhelm Bühler)

Signals are used to notify a program of some event in Unix, programs an install signal handlers to catch them and react. The Problem with Signal Handlers ist, that non-atomic operations can get interrupted, and end up in an unexpected state.

Henning Brauer is an OpenBSD-developer for years now.

Wilhelm Bühler started with Unix 1985 and is still using it.

Talk: Network Stack Randomness (Ryan McBride)

The OpenBSD project has been very aggressive in its use of strong pseudo-random data in its network code; as a policy, pseudo-random data is used in protocol fields wherever possible, in many cases in a way not envisioned by the protocol designers. Randomness is also used within the network code to protect against denial of service attacks.

Talk: New Evolutions in the X Window System (Matthieu Herrb and Matthias Hopf)

This paper presents an overview of recent and on-going evolutions in the X Window System. First, the state of some features will be presented, which are already available for several months in the X server, but not yet widely used in applications. Then some ongoing and future evolutions will be shown: On the short term, the new EXA acceleration framework and the new modularized build system. The last part will focus on a longer term project: the new server architecture based on OpenGL, using it as a common framework for both 2D and 3D acceleration.

Matthieu Herrb has been an XFree86 contributor from 1995 to 2004. He has now joined X.org. He's currently maintainig X11 on OpenBSD. He has a PhD in robotics from the Univeristy of Toulouse and works at CNRS/LAAS doing software and system administration for robotics applications.

Matthias Hopf is working on X.org for SUSE since 2004. He has a PhD in computer science from the Visualization and Interactive Systems (VIS) group in Stuttgart and specialized in GPGPU applications and programmable graphics hardware.

Talk: The Design and Implementation of OpenOSPF (Claudio Jeker)

OpenOSPF is a new – added in OpenBSD 3.7 – routing daemon. It implements the Open Shortest Path First protocol used to redistribute and calculate the routing table for the interior network. It is after OpenBGPD the next major step for full routing capabilities in OpenBSD.

OSPF is currently the most often used IGP routing protocol, it is used to control routing inside a bigger network. Together with BGP it makes it possible to re-route traffic in case of link loss resulting in a higher-level of availability.

Claudio Jeker studied electrical engineering at the ETH Zurich and is now working for a small company doing hardware and software development. He has been an OpenBSD developer for almost two years and is one of the main developers of OpenBGPD and of course OpenOSPF.

Talk: Building Robust Firewalls with OpenBSD and PF (Ryan McBride)**Talk: Embedded OpenBSD (Niall O'Higgins, Uwe Stuehler)**

OpenBSD is often overlooked in the embedded computing domain. In this paper we will highlight the features which make OpenBSD an excellent choice as an embedded operating system. We will give real-world examples from the ARM ports and small i386 systems such as Soekris and WRAP. Finally, we will discuss the technical issues involved in starting a port to a new platform and talk about the benefits the codebase as a whole can reap from having multiple ports. OpenBSD/zaurus will be our showcase port.

Talk: A New Thread Implementation for OpenBSD (Ted Unangst)

The existing userland pthreads library in use by OpenBSD is hampered by poor performance, inability to utilize multiple CPUs, and unnecessary complexity. A replacement library, rthreads, utilizes a modified rfork() system call to create kernel threads. It is both simpler and more scaleable than the library it replaces. A comparison with other kernel assisted threading implementations is included.

Ted Unangst has BA in Classics and an interest in OS kernel development, likes to drink vodka, and is looking for a warmer place to live. He has been an OpenBSD developer for two years.

OpenBSD Developers at eurobsdcon_05:

Marc Balmer (mbalmer), Henning Brauer (henning), David Cathcart (cathcart), Reyk Floeter (reyk), Claudio Jeker (claudio), Matthieu Herrb (matthieu), Niall O'Higgins (niallo), Moritz Jodeit (moritz), Ryan McBride (mcbride), Michael Shalayeff (mickey), Uwe Stuehler (uwe), Ted Unangst (tedu), Wim Vandeputte (wvdputte), Christian Weisgerber (naddy), to be continued...

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