

cvs-src summary for 14/03/04

Source: <http://unix.derkeiler.com/Mailing-Lists/FreeBSD/current/2004-03/1214.html>

From: Mark Johnston (*mjohnston_at_skyweb.ca*)

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To: current@freebsd.org

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This week, I've added a new section for "Notable Changes". This is for changes that aren't exactly new features, aren't exactly bug fixes, but are important nonetheless.

Mark

FreeBSD cvs-src summary for 07/03/04 to 14/03/04

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This is a regular weekly summary of FreeBSD's cutting-edge development. It is intended to help the FreeBSD community keep up with the fast-paced work going on in FreeBSD-CURRENT by distilling the deluge of data from the CVS mailing list into a (hopefully) easy-to-read newsletter. This newsletter is marked up in reStructuredText_, so any odd punctuation that you see is likely intended for the reST parser.

.. _reStructuredText: <http://docutils.sourceforge.net/rst.html>

You can get old summaries, and an HTML version of this one, at <http://www.x10.org/FreeBSD/>. Please send any comments to Mark Johnston (mark at x10.org).

For Lukasz Dudek and Szymon Roczniak's Polish translations of these summaries, which may lag the English ones slightly, please see <http://mocart.pinco.pl/FreeBSD/>.

.. contents::

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New features

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OpenBSD PF linked into the system build

Max Laier (mlaier) has linked PF_, which was imported into the system a while ago, into the build, so it will be available in -CURRENT from now on. When you upgrade past this change (March 8th), you'll need to use `mergemaster -p` before `installworld` (but you always do that anyway, right?) since it adds a new user and two groups. In case you don't want to use

PF, this commit also adds a NO_PF option to make.conf.

.. _PF: <http://www.benzedrine.cx/pf.html>

<http://docs.freebsd.org/cgi/mid.cgi?200403082203.i28M3TvL068184>

Nanobsd tools for embedded systems added

Poul-Henning Kamp (phk) added a tool called nanobsd, which can be used to create a system image suitable for use in embedded systems. Nanobsd currently works only for 256MB flash disks, but there's lots of room to shrink the system further. This code is a starting point and still needs work and documentation, but if you want to try it, the Makefile and configuration files are available in /usr/src/tools/tools/nanobsd.

<http://docs.freebsd.org/cgi/mid.cgi?200403101028.i2AASYW0011837>

Intel C compiler support added for kernel building

Tom Rhodes (trhodes) committed support for using `Intel's icc C compiler`_ to build the kernel. Intel's compiler tends to generate significantly faster code than gcc. Currently, this only works properly with icc 7; kernels built with icc 8 still have serious problems.

.. _`Intel's icc C compiler`: <http://www.intel.com/software/products/compilers/clin/>

<http://docs.freebsd.org/cgi/mid.cgi?200403122136.i2CLaCm9096276>

<http://docs.freebsd.org/cgi/mid.cgi?200403122145.i2CLjXYo098770>

New sysctls to restrict hard links

Pawel Jakub Dawidek (pjd) added two new sysctls that can be used to prevent users from making hard links to files that don't belong to them. The sysctls are named security.bsd.hardlink_check_uid and security.bsd.hardlink_check_gid; they restrict the ability to make hard links to the owning user and owning group, respectively. The new sysctls default to off.

<http://docs.freebsd.org/cgi/mid.cgi?200403082037.i28KbQ2M041691>

Sparc64 platform changes to 64-bit time storage

Garance A. Drosehn (gad) changed sparc64 over from the old 32-bit time_t time storage type to a 64-bit one. A 64-bit time_t eliminates the `year 2038 problem`_ when the 32-bit time_t runs out of room in 2038. The 64-bit counter will not run out of room for some 292 billion years. This change affects a lot of different applications, so there may be some followup patches as problems are found; this instability will affect only the sparc64 platform.

.. _`year 2038 problem`: <http://maul.deepsky.com/~merovech/2038.html>

<http://docs.freebsd.org/cgi/mid.cgi?200403101739.i2AHd6r0020216>

Netgraph VLAN support MFC'ed

Ruslan Ermilov (ru) committed Netgraph support for IEEE 802.1q VLAN tags to FreeBSD 4.x. This Netgraph module was added to -CURRENT last week; more information is available in last week's summary`_.

.. _`in last week's summary`:

<http://excel.x10.org/FreeBSD/07-03-04.html#netgraph-support-for-ieee-802-1q-vlan-tags>

<http://docs.freebsd.org/cgi/mid.cgi?200403101535.i2AFZLqO086909>

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Notable changes

nologin moved from /sbin to /usr/sbin

Colin Percival (cperciva) moved the nologin program, used as a shell for users who shouldn't be able to log in, from /sbin to /usr/sbin. There will be a symbolic link made from /sbin/nologin to /usr/sbin/nologin for compatibility.

<http://docs.freebsd.org/cgi/mid.cgi?200403131102.i2DB2b31094295>

asc, ctx, gp, gsc, le, rdp, spigot, stl, stli, and wt legacy drivers removed

M. Warner Losh (imp) removed:

- The asc driver, for GI1904-based hand scanners
- The ctx driver, for another scanner
- The gp driver, for National Instruments AT-GPIB boards
- The gsc driver, for the Genius GS-4500 hand scanner
- The le driver, for DEC EtherWORKS II/III Ethernet adapters
- The rdp driver, for the Realtek RTL-8002 parallel port Ethernet device
- The spigot driver, for the video spigot device
- The stl and stli drivers, for Stallion serial controllers
- The wt driver, for Wangtek QIC-02/QIC-36 tape drives

from the tree. These drivers use old legacy compatibility APIs which are being eliminated. These devices can be supported again if an up-to-date driver is contributed for them.

asc: <http://docs.freebsd.org/cgi/mid.cgi?200403140457.i2E4vSJo066061>

ctx: <http://docs.freebsd.org/cgi/mid.cgi?200403140527.i2E5RUhp073476>

gsc: <http://docs.freebsd.org/cgi/mid.cgi?200403142242.i2EMgsWP048258>

gp: <http://docs.freebsd.org/cgi/mid.cgi?200403140531.i2E5Vfsi074787>

le: <http://docs.freebsd.org/cgi/mid.cgi?200403142225.i2EMPJIA043790>

rdp: <http://docs.freebsd.org/cgi/mid.cgi?200403142235.i2EMZTqo046065>

spigot: <http://docs.freebsd.org/cgi/mid.cgi?200403142231.i2EMVnvS045428>

stl/stli: <http://docs.freebsd.org/cgi/mid.cgi?200403140648.i2E6maVS008566>

wt: <http://docs.freebsd.org/cgi/mid.cgi?200403140446.i2E4kqSE057900>

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Discussion topics
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Trading off speed for application support

John Birrell (jb) modified the stdio (standard input/output) code so that a program can create a FILE structure on its own, rather than retrieving one from the system. Tim Robbins (tjr) questioned this functionality, noting that the extra code would slow down the important stdio code to support misbehaving applications. Alexander Kabaev (kan) agreed with Tim, saying that he'd prefer to explicitly disallow poking around in a FILE structure. From there, a subthread centered on improving stdio performance in general, by separating the threaded and non-threaded cases. In the end, John decided to back out the change, since he had only one private application that needed the functionality.

<http://docs.freebsd.org/cgi/mid.cgi?200403090245.i292j0a603572>

vnode-backed memory disk deadlock fixed

Poul-Henning Kamp (phk) fixed a deadlock in vnode-backed md memory disk devices over a certain, unknown size. He noted that this fix involves a performance hit, so the -o async option can be given to mdconfig to use the old, faster, unsafe behavior. Alexey Dokuchaev asked whether a fix is possible without the performance penalty. Poul-Henning answered that either the syncer or the md code needs to be aware of the special case of a vnode-backed md. Colin Percival (cperciva) asked whether md could directly access the disk blocks it wanted to use, rather than going through the filesystem. Poul-Henning explained that that implementation would be faster and would eliminate a layering violation, but the complexity of such a setup would outweigh the benefits. Bruce Evans (bde) further noted that very old versions of the vnode driver used the scheme; it was highly complex, and didn't quite work.

In a subthread, Brian Feldman (green) noted that the async option is unsafe in a non-obvious way, and suggested that the flag be renamed to unsafe_async or similar, or an -o force flag be required as well. Poul-Henning disagreed, stating that mdconfig is already dangerous enough that the slight extra protection such a flag would give would be no improvement.

<http://docs.freebsd.org/cgi/mid.cgi?200403102041.i2AKf90I061660>

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Committer changes
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David Malone (dwmalone) introduced Peter Edwards (peadar) as a new src committer. Peter will be working on debuggers and threads as well as doing general src commits.

<http://docs.freebsd.org/cgi/mid.cgi?200403082133.i28LXoof060708>

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Important bug fixes
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File corruption bug when running multiple instances of pw corrected

Ken Smith (kensmith) committed a change to the pw utility, which manages the passwd and group files, to lock the file it's going to change. This eliminates the possibility of corrupting those files when pw is run more than once at the same time. This problem was reported in `PR 23501`_.

.. `PR 23501`: <http://www.freebsd.org/cgi/query-pr.cgi?pr=23501>

<http://docs.freebsd.org/cgi/mid.cgi?200403082031.i28KVcv8040798>

Non-interactive script fixed in 4.x

Colin Percival (cperciva) MFC'ed fixes for the script utility for bugs that prevented it from working when used non-interactively. This fixes a problem that could result in portupgrade deleting ports and not reinstalling them, and it closes 5 PRs: 56166_, 57414_, 57415_, 59036_, and 60534_.

.. _56166: <http://www.freebsd.org/cgi/query-pr.cgi?pr=56166>

.. _57414: <http://www.freebsd.org/cgi/query-pr.cgi?pr=57414>

.. _57415: <http://www.freebsd.org/cgi/query-pr.cgi?pr=57415>

.. _59036: <http://www.freebsd.org/cgi/query-pr.cgi?pr=59036>

.. _60534: <http://www.freebsd.org/cgi/query-pr.cgi?pr=60534>

<http://docs.freebsd.org/cgi/mid.cgi?200403130921.i2D9L0hH069821>

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Other bug fixes
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Lukas Ertl (le) committed a patch to df that fixes what df reports for available space on an over-full file system when a custom block size is used. This commit closes `PR 62536`_, submitted by Peter van Dijk.

.. `PR 62536`: <http://www.freebsd.org/cgi/query-pr.cgi?pr=62536>

<http://docs.freebsd.org/cgi/mid.cgi?200403091002.i29A2ixD043305>

Tim Kientzle (kientzle) updated libarchive, a library for reading and writing streaming archive files, with many fixes and portability updates.

<http://docs.freebsd.org/cgi/mid.cgi?200403091950.i29JogcD092086>

Bruce Evans (bde) updated many applications that were misusing NULL to mean 0 and vice versa.

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freebsd-current@freebsd.org mailing list

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