

What's in store for NetBSD 9.0

Sevan Janiyan <sevan@{pkgsrc,NetBSD,FreeBSD}.org>
<http://sevan.sdf.org/ebsd2018.pdf>

A year ago, in a place
far far away....

NetBSD 8.0

- Released July 17 2018

<http://netbsd.org/releases/formal-8/NetBSD-8.0.html>

- 1017 resolved pullups to netbsd-8 as of 20/09/18.

See: <http://releng.netbsd.org/cgi-bin/req-8.cgi>

- Dedicated release engineer funded by TNF (martin)

- First from a new release support policy

http://blog.netbsd.org/tnf/entry/changes_to_netbsd_release_support

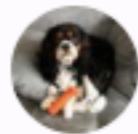


Jared McNeill @jmcwhatever · Jul 21

Some of my contributions to NetBSD 8.0:

- FDT support
- Add support for Allwinner H2+/H3/A83T SoCs
- First release to support the NVIDIA Tegra K1 SoC
- UHS-I & HS200 support added to the sdmmc stack
- Full featured ARM QEMU target (vexpress-a15)

6 11 56



Jared McNeill

@jmcwhatever

Follow

The amount of improvements to the NetBSD ARM port since 8.0 branched is huge. I am very much looking forward to 9.0.

4:27 PM - 21 Jul 2018

2 Retweets 17 Likes



2 17

<https://twitter.com/rsmarples/status/1022871457628672001>



Roy Marples

@rsmarples

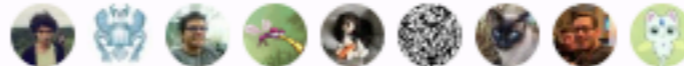
Follow



Some of my contributions to [@NetBSD](#) 8.0:
Overflow detection for the receiving socket.
IPv4 DaD
Deny IPv4 or IPv6 traffic until DaD is
validated
Routing socket message filtering
getifaddrs(3) additions to report flags and pid
Many terminfo and curses improvements

8:48 AM - 27 Jul 2018

5 Retweets 27 Likes



↻ 5



27

Thanks to SDF.org

`/etc/motd`

SDF is a NetBSD development site. We are the largest NetBSD installation in the world. Because of this the SDF cluster serves as a testbed for future NetBSD releases. We are currently testing the new NetBSD-8 release and are working through a short list of bugs. If the SDF cluster is unavailable, check <http://www.sdf.org> for NetBSD developer status. Debugging takes time but is much faster with a live system.

Thank you for supporting NetBSD, a free alternative to Linux and Windows Server.

Version soup update

- New GCC / Binutils / GDB
- New OpenSSH / OpenSSL
- See `src/doc/3RDPARTY` for extensive list

Native Command Queuing (NCQ) support

Installer improvements

- Improved GPT support
- Less intervention / CDN support


Goodbye
NetBSD/acorn26

Hello
NetBSD/aarch64

New boards

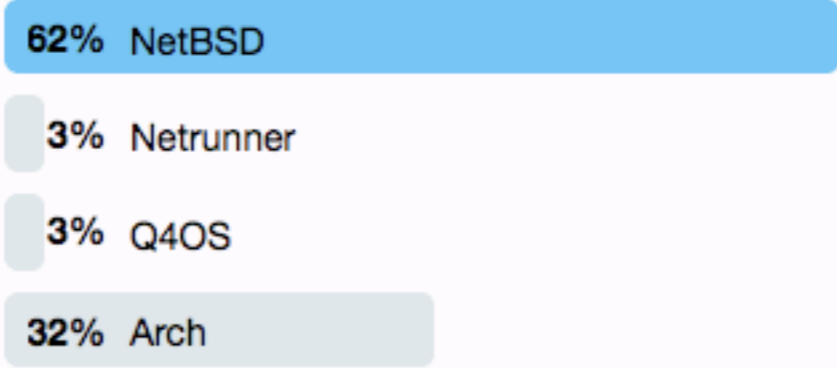
- Olimex A10-OLinuXino-LIME
- Olimex A13-OLinuXino / -MICRO
- C.H.I.P / Pro / Pocket
- Pine64 / PineBook / Its / Sopine / Rock64 / ROCKPro64
- FriendlyARM NanoPi NEO2 / NEO Pluse2
- Orange Pi One Plus, Pine H64
- SoftIron Overdrive 1000
- nvidia TX1
- ODROID-XU3/XU4
- Exynos 5422
- ...

<https://twitter.com/thepine64/status/1022974612676718592>

 **PINE64** @thepine64 · Jul 27 ▼

#Pinebook (11.6") BTO website will be updated on August 1st. Which OS would you like the next batch of Pinebooks to ship with? In the past they shipped with @ubuntu_mate. If you have other ideas let us know!
pine64.org/?page_id=3832

@netbsd @netrunner_os @q4osteam @archlinux



OS	Percentage
NetBSD	62%
Arch	32%
Netrunner	3%
Q4OS	3%

245 votes • Final results

15 19 31

EFI Support

CVS commit: src/distrib/utils/embedded

- To: source-changes%NetBSD.org@localhost
- Subject: CVS commit: src/distrib/utils/embedded
- From: "Jared D. McNeill" <jmcneill%netbsd.org@localhost>
- Date: Mon, 27 Aug 2018 22:36:50 +0000

Module Name: src
Committed By: jmcneill
Date: Mon Aug 27 22:36:49 UTC 2018

Modified Files:
src/distrib/utils/embedded/conf: arm64.conf
Removed Files:
src/distrib/utils/embedded/files: arm64_extlinux.conf

Log Message:
Install ELF kernel to the FFS partition and boot it with bootaa64.efi
instead of loading kernel.img from the MSDOS partition with extlinux.conf

To generate a diff of this commit:
cvs rdiff -u -r1.3 -r1.4 src/distrib/utils/embedded/conf/arm64.conf
cvs rdiff -u -r1.1 -r0 src/distrib/utils/embedded/files/arm64_extlinux.conf

Please note that diffs are not public domain; they are subject to the
copyright notices on the relevant files.

Pi 3B+ Ethernet

- To: port-arm%NetBSD.org@localhost
- Subject: Driver for Raspberry Pi 3B+ ethernet adapter (Microchip LAN75xx/LAN78xx)
- From: Rin Okuyama <rokuyama%rk.phys.keio.ac.jp@localhost>
- Date: Sat, 25 Aug 2018 13:55:08 +0900

I've ported `mue(4)`, driver for Microchip LAN75xx/LAN78xx known as internal NIC of Raspberry Pi 3B+, from OpenBSD.

Here's source codes as well as patch for other parts of kernel:
<http://www.NetBSD.org/~rin/mue20180825>

The driver has been tested on following devices:

- Raspberry Pi 3B+ (LAN7800)
- Z-TEK ZE582 (LAN7500) on both RPI3b+ and ThinkPad X60 (amd64)

`dmesg` and performance on RPI3b+ are as follows:

```
% dmesg
...
mue0 at uhub2 port 1
mue0: SMSC (0x424) LAN7800 USB 3.1 gigabit ethernet device (0x7800), rev 2.10/3.00, addr 7
mue0: LAN7800
mue0: Ethernet address xx:xx:xx:xx:xx:xx
ukphy0 at mue0 phy 1: OUI 0x00800f, model 0x0013, rev. 2
ukphy0: 10baseT, 10baseT-FDX, 100baseTX, 100baseTX-FDX, 1000baseT, 1000baseT-FDX, auto
...
% scp somewhere:random.128m .
random.128m                100% 128MB 12.4MB/s 14.1MB/s 00:10
% scp random.128m somewhere:
random.128m                100% 128MB  9.1MB/s  9.3MB/s 00:14
```

Basically, the driver works fine. However, if the media type is set to something other than 1000baseT-FDX, data transmission becomes quite unstable. Also, `ukphy(4)` mistakenly recognize 1000baseT as a supported media type, although the adapters do not support it. I suspect that MII of the adapters has bugs...

I thank `ryo@` for letting me know how to obtain MAC address from `bcmmbx(4)`.

I'd like to commit it in this weekend if there's no objection.

Thanks,
rin

Firewalls!

- IPFilter, PF, NPF
- Pick a firewall, any firewall!
- No, not that one!

By August 20th

Dear develociraptors,

Core discussed the state of packet filters, and we have decided to support only npf going forward. We may not delete pf or ipf immediately, but they will at least be deprecated in netbsd-9, which we're aiming for an expedited schedule by the end of the year.

We realize there are features missing from npf. They are currently collected in src/doc/TODO.npf. We would rather see effort spent on implementing these features in npf, or even on implementing pf or ipf source compatibility, than effort spent on updating or maintaining pf or ipf any further.

The NetBSD Foundation may be able to fund work to do this, or to improve the documentation -- please submit a proposal to core@ and board@ if you're interested.

Thanks,
-Riastradh, on behalf of core

NPF(7)

NetBSD Packet Filter

- In-house implementation
- Actively developed
- SMP-aware from start
- libnpf(3)
- Now uses libnv from FreeBSD

Libnv from FreeBSD

- Intuitive reference counting (symmetric API)
- Accumulated error handling
- Efficient binary encoding (as opposed to proplib(3)'s XML-like encoding)
- Does not have shared structures with internal locking
- Preferable API (proplib(3) deemed awkward)
- Integrates with what's used in Solaris and FreeBSD

Sanitised?

- Kernel Sanitizers

Undefined Behavior Sanitizer (kUBSan)
Address Sanitizer (kASan)

- Tighter integration of userland sanitizers

MKSANITIZER (the default/toolchain runtime of sanitizers ASan, UBSan on top of libc, librt, libm, libpthread)

MKLIBCSANITIZER (custom UBSan runtime executed inside libc)

Leak Sanitizer (lsan)

[http://mail-index.netbsd.org/source-changes/ 2018/08/23/msg097757.html](http://mail-index.netbsd.org/source-changes/2018/08/23/msg097757.html)

- **To:** source-changes%NetBSD.org@localhost
- **Subject:** CVS commit: src/sys/dev/pci
- **From:** "Maxime Villard" <maxv%netbsd.org@localhost>
- **Date:** Thu, 23 Aug 2018 11:53:15 +0000

Module Name: src
Committed By: maxv
Date: Thu Aug 23 11:53:15 UTC 2018

Modified Files:
src/sys/dev/pci: if_msk.c

Log Message:
Fix buffer overflow, detected by kASan.

```
[ 1.044878] kASan: Unauthorized Access In 0xffffffff804ec7e2: Addr 0xffffffff818a51e4 [2 bytes, read]
[ 1.044878] #0 0xffffffff804ec7e2 in mskc_probe <netbsd>
[ 1.044878] #1 0xffffffff80e92a77 in mapply <netbsd>
[ 1.044878] #2 0xffffffff80e92e5f in config_search_loc <netbsd>
[ 1.044878] #3 0xffffffff80e93fb5 in config_found_sm_loc <netbsd>
[ 1.044878] #4 0xffffffff802ca9ea in pci_probe_device <netbsd>
[ 1.044878] #5 0xffffffff802cad97 in pci_enumerate_bus <netbsd>
[ 1.044878] #6 0xffffffff802caf00 in pcirescan <netbsd>
[ 1.044878] #7 0xffffffff802cblee in pciattach <netbsd>
[ 1.044878] #8 0xffffffff80e93e5b in config_attach_loc <netbsd>
[ 1.044878] #9 0xffffffff80e93fce in config_found_sm_loc <netbsd>
[ 1.044878] #10 0xffffffff80271212 in mp_pci_scan <netbsd>
[ 1.044878] #11 0xffffffff8022d9ee in mainbus_attach <netbsd>
[ 1.044878] #12 0xffffffff80e93e5b in config_attach_loc <netbsd>
[ 1.044878] #13 0xffffffff8021e38b in cpu_configure <netbsd>
[ 1.044878] #14 0xffffffff814a7068 in main <netbsd>
```

To generate a diff of this commit:
cvs rdiff -u -r1.75 -r1.76 src/sys/dev/pci/if_msk.c

Please note that diffs are not public domain; they are subject to the copyright notices on the relevant files.

[http://mail-index.netbsd.org/source-changes/ 2018/08/31/msg098728.html](http://mail-index.netbsd.org/source-changes/2018/08/31/msg098728.html)

- **To:** source-changes%NetBSD.org@localhost
- **Subject:** CVS commit: src/sys/net
- **From:** "Maxime Villard" <maxv%netbsd.org@localhost>
- **Date:** Fri, 31 Aug 2018 15:15:23 +0000

Module Name: src
Committed By: maxv
Date: Fri Aug 31 15:15:23 UTC 2018

Modified Files:
src/sys/net: rtsock.c

Log Message:
Fix buffer overflow, detected by kASan.

```
ifconfig gif0 create
ifconfig gif0 up
```

```
[ 50.682919] kASan: Unauthorized Access In 0xffffffff80f22655: Addr 0xffffffff81b997a0 [8 bytes, read]
[ 50.682919] #0 0xffffffff8021ce6a in kasan_memcpy <netbsd>
[ 50.692999] #1 0xffffffff80f22655 in m_copyback_internal <netbsd>
[ 50.692999] #2 0xffffffff80f22e81 in m_copyback <netbsd>
[ 50.692999] #3 0xffffffff8103109a in rt_msg1 <netbsd>
[ 50.692999] #4 0xffffffff8159109a in compat_70_rt_newaddrmsg1 <netbsd>
[ 50.692999] #5 0xffffffff81031b0f in rt_newaddrmsg <netbsd>
[ 50.692999] #6 0xffffffff8102c35e in rt_ifa_addlocal <netbsd>
[ 50.692999] #7 0xffffffff80a5287c in in6_update_ifal <netbsd>
[ 50.692999] #8 0xffffffff80a54149 in in6_update_ifa <netbsd>
[ 50.692999] #9 0xffffffff80a59176 in in6_ifattach <netbsd>
[ 50.692999] #10 0xffffffff80a56dd4 in in6_if_up <netbsd>
[ 50.692999] #11 0xffffffff80fc5cb8 in if_up_locked <netbsd>
[ 50.703622] #12 0xffffffff80fcc4c1 in ifioctl_common <netbsd>
[ 50.703622] #13 0xffffffff80fde694 in gif_ioctl <netbsd>
[ 50.703622] #14 0xffffffff80fcdb1f in doifioctl <netbsd>
```

To generate a diff of this commit:
cvs rdiff -u -r1.241 -r1.242 src/sys/net/rtsock.c

Please note that diffs are not public domain; they are subject to the copyright notices on the relevant files.

Randomised?

<https://twitter.com/m00nbsd/status/1029392038687592448>



Maxime Villard

@m00nbsd

Follow

randomized? #NetBSD #KernelASLR

	GENERIC	GENERIC_KASLR	Xen dom0/domU
Userland	Yes	Yes	Yes
PTE Area	Yes	Yes	No
Main Kernel Memory	Yes	Yes	Yes
Direct Map	Yes	Yes	Not applicable
PCPU Area	Not applicable	Not applicable	Not applicable
Kernel Image	No	Yes	No

8:39 AM - 14 Aug 2018

9 Retweets 17 Likes



↻ 9

♡ 17

PMC

Performance Metric Counters

- Goodbye pmc(9) and X86PMC
- Revamped tprof(4) with i386/amd64/arm/arm64 support

DRM update

- 2013 imported 3.8
- 2015 merged 3.25 -> netbsd-7
- 2016 merged nouveau -> netbsd-8
- 2018 merged 4.4.143 -> HEAD
merging 4.19(-rc2)

net80211 update

- bwfm(4) - Broadcom & Cypress wifi driver from OpenBSD, USB & PCI-e devices supported
- TNF funded project to port FreeBSD stack. See phil-wifi branch (not merged yet)

<http://mail-index.netbsd.org/tech-net/2018/09/04/msg007033.html>

Modularization of compat modules

- Following on from Ilya van Sprundel's "Are all BSDs created equally" talk
- See `pgoyette-compat` branch in `src`

Deleted

- NATM - Native ATM
- i386_vm86(2) - set virtual 8086 processor registers and mode
- viadrm(4) - superseded by viadrmums(4)
- ipkdb - IP-based kernel debugger
- Xen non-pae-32bit-PV
- n8 - NetOctave NSP 2000
- NDIS wrapper
- EtherIP(4) - Ethernet over IP
- isdn4bsd

Updated ZFS & DTrace

https://wiki.netbsd.org/tutorials/how_to_enable_and_run_dtrace/

- Switched from OpenSolaris to FreeBSD as upstream.
- Import from FreeBSD svn r315983.
- DTrace FBT probes can now be placed in kernel modules.
- ZFS now supports mmap().

Lua Updates

- Lua 5.3.5
- luaelftoolchain (wip)
<https://github.com/xmmswap/luaelftoolchain>
- netpgp(3lua)
- bozohttpd(3lua)
- unix(3lua) (wip) <https://github.com/arcaupos/luaunix>
- npf(3lua) at some point?
http://netbsd.org/~lneto/pending/0005-added-npf_ext_lua.patch



Tier 2 Ports

- G5 support (almost?) in NetBSD/macppc
- VAXstation 4000 TURBOchannel support
- cpuctl support for NetBSD/sparc & sparc64
- Milan support for NetBSD/atari

Hardware support

<https://twitter.com/pr1ntf/status/957392735949877248>



Rebel Without a Clue  
@pr1ntf

Follow

FreeBSD:

"Check out my horse power."

OpenBSD:

seatbelt reminder warning constantly ringing

NetBSD:

"We put a Chevy small block in a 2/3 scale P-51 WWII fighter. Let's see if it flies."

DragonFlyBSD:

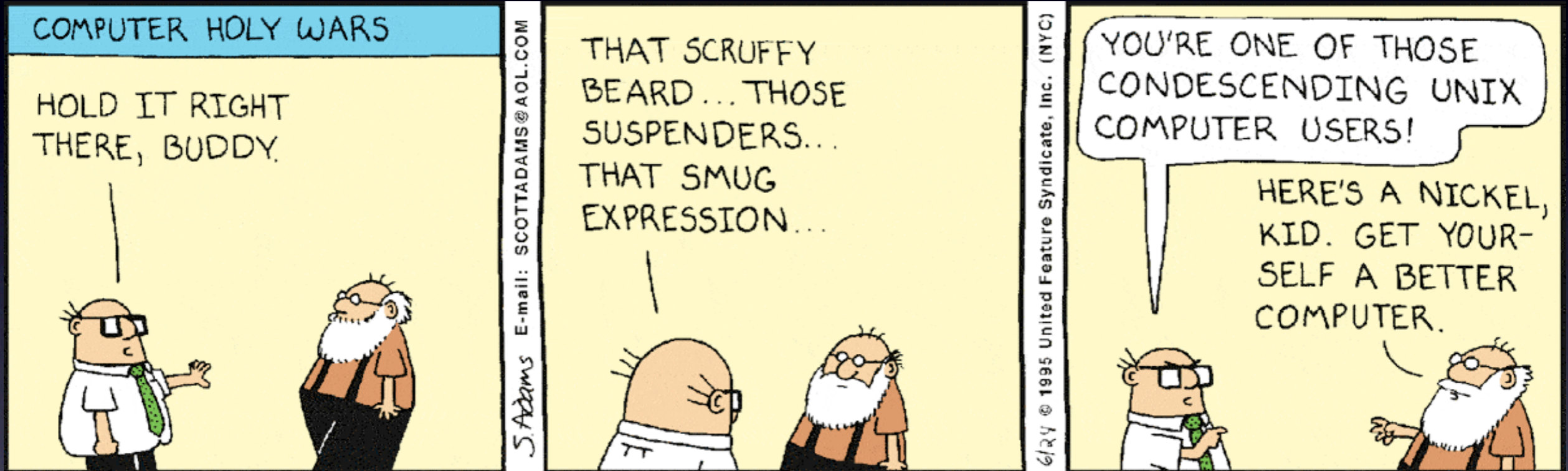
"Matt's been in the garage for weeks but his flying car is awesome."

3:19 PM - 27 Jan 2018

48 Retweets 106 Likes



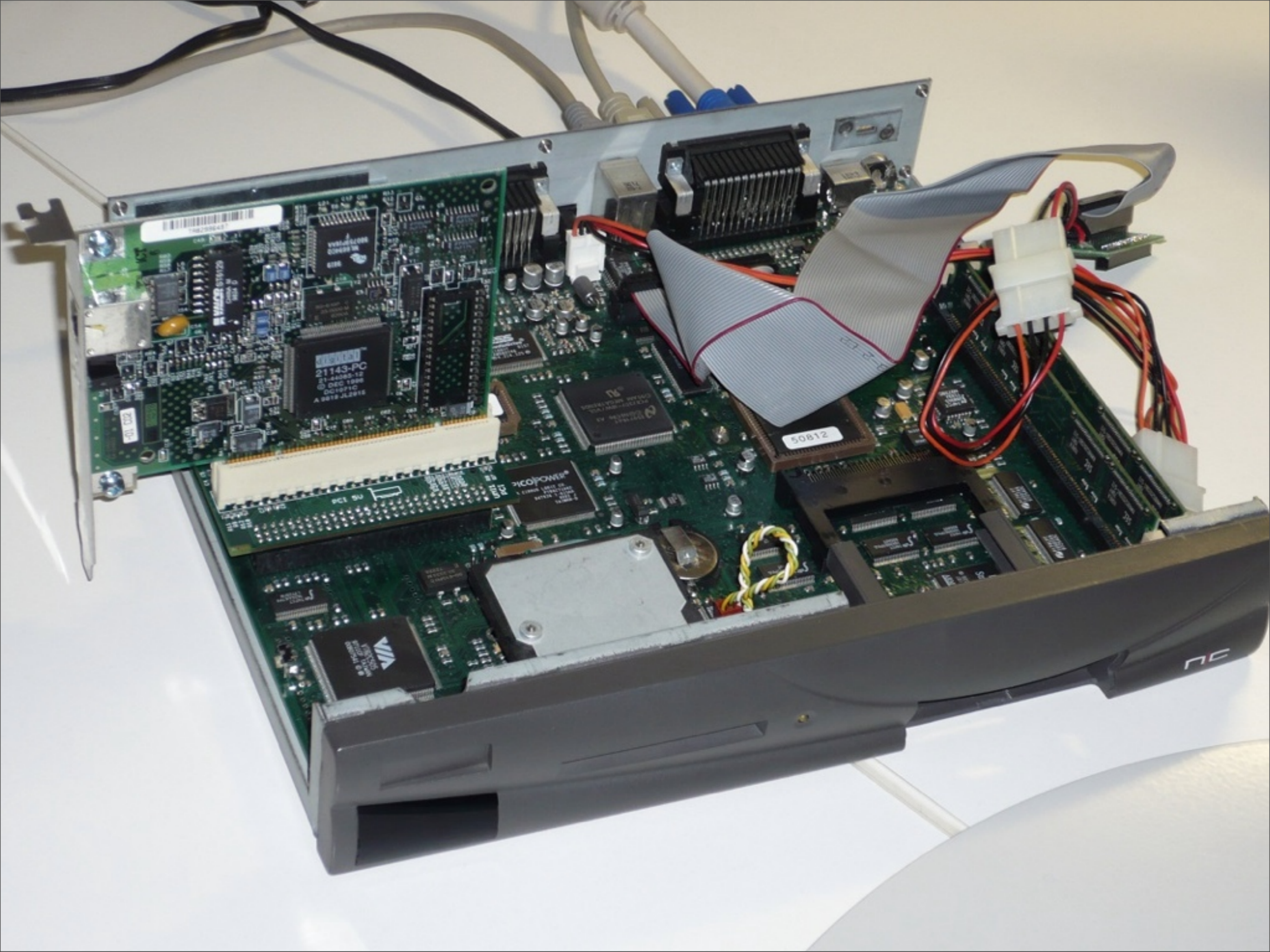
<http://dilbert.com/strip/1995-06-24>



DNARD-PCI

<http://www.flxd.de/dnard-pci/>

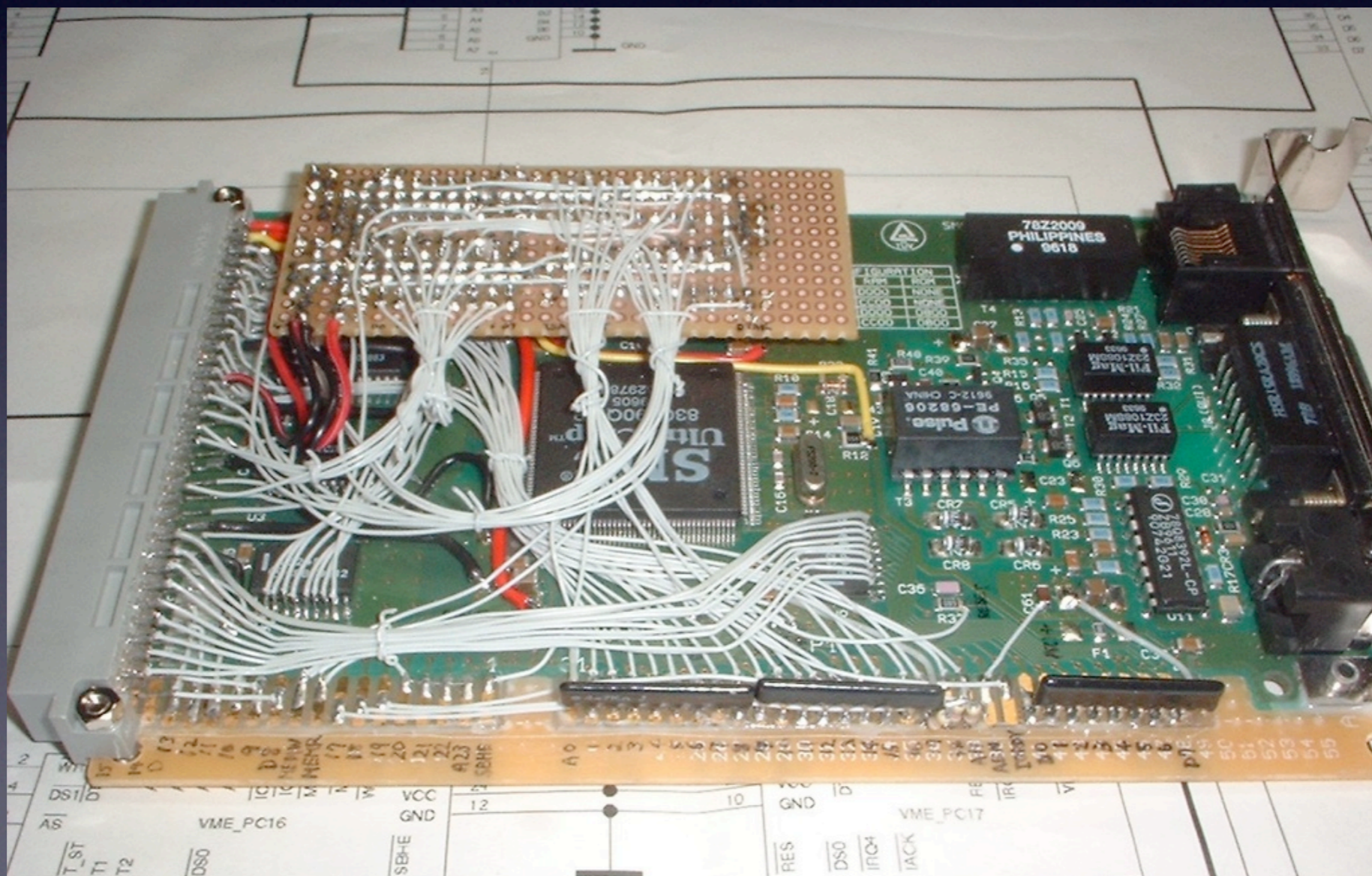
- Based on the VIA VT82C505 VL-Bus to PCI bridge
- Working with PCI cards without using DMA (I/O or MEM space) e.g ne(4) or SATA/IDE interface in PIO mode.
- See
`src/sys/arch/shark/ofw/vlpci.c`
`src/sys/arch/shark/ofw/vlpci.h`



Atari TT SMC_TT & EtherNEC

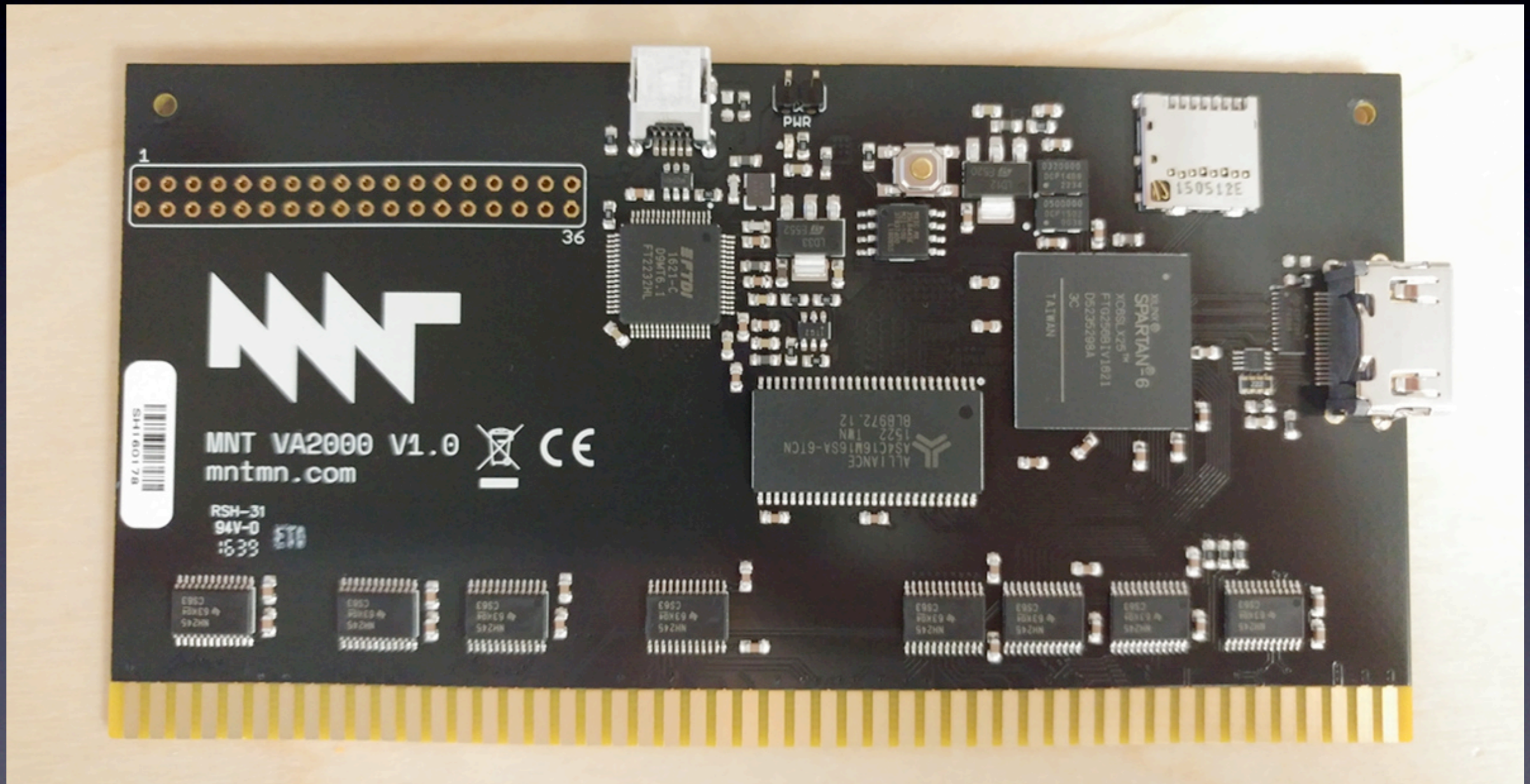
<https://twitter.com/tsutsui/status/1036602442790526978>

<http://togetter.com/li/76769>



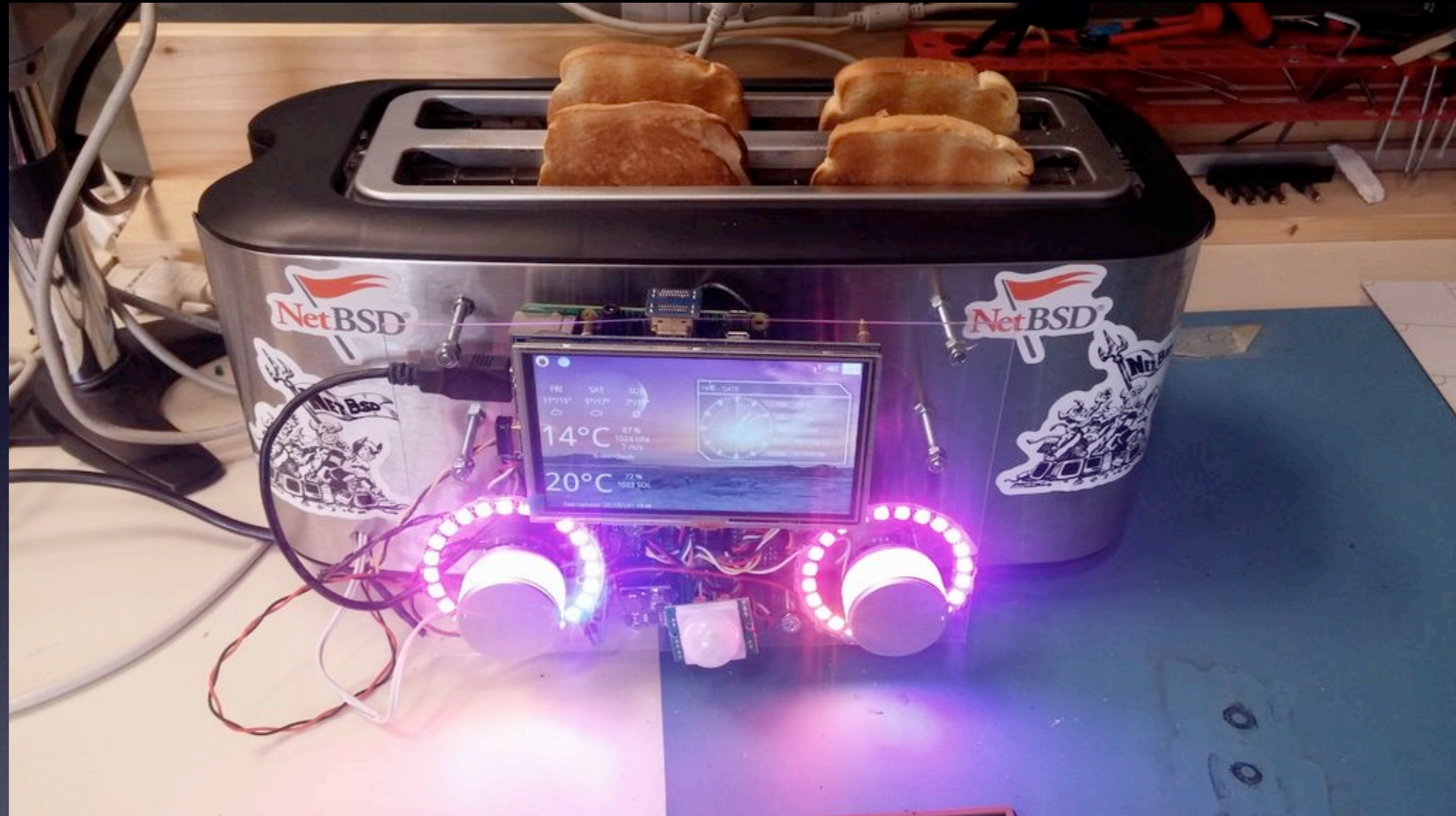
MNT VA2000

<http://mntmn.com/va2000/>



IronForge The NetBSD Toaster

<http://www.instructables.com/id/IronForge-the-NetBSD-Toaster/>



Questions?

