



dmarkey Update README.md

353c10c · 3 years ago

59 lines (33 loc) · 2.59 KB

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Galileo Resurrection

Do you have an old Intel Galileo and thought it was for the trash as it's a dead board that nobody cares about anymore?

I thought that too! With a little help from some Intel engineers I was able to breathe some life into my old Galileo!



```

CPU[|||||] 7.4%] Tasks: 23, 1 thr: 1 running
Mem[|||||] 37.8M/205M] Load average: 0.27 0.62 0.38
Swp[ ] 0K/0%] Uptime: 00:06:26
                                           Hostname: galileo

PID USER      PRI  NI  VIRT   RES   SHR  S  CPU%-MEM%  TIME+  Command
213 galileo   20   0  5104  3420  2588  R  6.8  1.6  0:04.17 htop
210 galileo   20   0 12064  4344  3416  S  0.6  2.1  0:00.63 sshd: galileo@pts/0
  1 root       20   0 34388  8340  6860  S  0.0  4.0  0:20.05 /sbin/init
  91 root       20   0 55268  7928  7228  S  0.0  3.8  0:04.59 /usr/lib/systemd/systemd-journald
112 systemd-t  20   0 24500  5312  4724  S  0.0  2.5  0:02.37 /usr/lib/systemd/systemd-timesyncd
115 systemd-t  20   0 24500  5312  4724  S  0.0  2.5  0:00.21 /usr/lib/systemd/systemd-timesyncd
116 root       20   0 24992  6512  5744  S  0.0  3.1  0:02.73 /usr/lib/systemd/systemd-udev
121 dbus       20   0 11420  4384  3916  S  0.0  2.1  0:01.27 /usr/bin/dbus-daemon --system --address=systemd: --nofork --nopidfile --systemd
127 root       20   0 13880  5908  5352  S  0.0  2.8  0:00.80 /usr/lib/systemd/systemd-homed
128 root       20   0 13732  6088  5504  S  0.0  2.9  0:01.55 /usr/lib/systemd/systemd-logind
129 systemd-n  20   0 14760  6732  6104  S  0.0  3.2  0:01.45 /usr/lib/systemd/systemd-networkd
139 systemd-r  20   0 17128  9340  8004  S  0.0  4.5  0:02.89 /usr/lib/systemd/systemd-resolved
142 root       20   0  7172  2892  2572  S  0.0  1.4  0:00.08 /sbin/agetty -o -p -- \u --noclear tty1 linux
143 root       20   0 10676  5060  4364  S  0.0  2.4  0:01.33 login -- root
149 root       20   0  8640  4980  4516  S  0.0  2.4  0:00.87 sshd: /usr/bin/ssh -D [listener] 0 of 10-100 startups
153 root       20   0 13488  4356  3864  S  0.0  2.1  0:01.04 /usr/lib/systemd/systemd-userdbd
154 root       20   0 13992  5400  4832  S  0.0  2.6  0:00.16 systemd-userwork
155 root       20   0 13992  5520  4956  S  0.0  2.6  0:00.18 systemd-userwork
156 root       20   0 13992  5528  4960  S  0.0  2.6  0:00.17 systemd-userwork
159 root       20   0  4392  3324  2960  S  0.0  1.6  0:00.16 -bash
193 root       20   0 12064  7396  6472  S  0.0  3.5  0:02.23 sshd: galileo [priv]
199 galileo   20   0 15204  7424  6592  S  0.0  3.5  0:01.74 /usr/lib/systemd/systemd --user
203 galileo   20   0 37868  1780    8  S  0.0  0.8  0:00.00 (sd-pam)
212 galileo   20   0  4392  3336  2968  S  0.0  1.6  0:00.10 -bash

```

What does this project achieve?

This project supplies real Linux distros on a Mainline kernel to use on your galileo. Simple burn the chosen image onto an SD card and plug it in!

Features:

- Mainline Linux 5.10.29 kernel
- Alpine Linux Image - Nice and light - suits for board well
- Arch linux (32bit) Image - Slightly heavy, rolling release and good selection of packages
- Minimal buildroot Image (console access only - only as an example)
- Networking and SSH initialised on first boot(not on buildroot image). Just find your board's IP address and ssh.
- Credentials: galileo/galileo root/root(no ssh)

TODO:

- Provide instructions on how to build more kernel modules (this board really isn't cut out for compiling code)
- Custom kernel versions
- Custom versions of Alpine Linux (3.13 is hardcoded - latest at time of writing)
- Automatically resize the SD card - you have to do that yourself (cfdisk, resize2fs).

Things you should know

- This is a slow board. 400mhz and 256MB of ram.
- This board does not have normal features of a modern x86 processor(no MMX for example). And Go executables will not work!
- I will not be very proactive keeping this project up-to-date - security updates won't be quick. Don't store your Bitcoin wallet on it.
- Your board will cease to work with Arduino etc, it will become an ordinary Linux machine. To revert simply remove the SD card.
- Gen1 has been tested by me, Gen2 may work.
- Haven't tested GPIO stuff.
- Some packages are affected by the "Segfault" bug for Quark. Seems to affect networking applications the worst, nginx and git for example.

Instructions

First download one of the built images from <https://github.com/dmarkey/galileo-resurrection/releases/tag/Resurrection-2021-April>

sdcard-alpine.img.gz -> Alpine linux 3.13

sdcard-arch.img.gz -> Arch linux

sdcard.img -> Buildroot

Uncompress the chosen image, find a Micro SD card that is 8GB+ and use dd to write the image to the SD card. Insert into your Galileo and power on. Check your router for the assigned IP address "galileo" is the configured hostname and SSH as `galileo/galileo` . `su -` to root using password `root`