Online Embedded Linux system development course in new time zones[2]

Since April 2020, we are offering our training courses online, both in public sessions available to individual registration and in dedicated sessions for specific customers.

So far, our public sessions have always been organized from 2 PM to 6 PM Paris time, which was a good fit for our customers in Europe and in the US East Coast, but not so much for our customers in the US West Coast, in the Middle East and Asia.

Tachyum boots Linux on Prodigy FPGA [3]

Tachyum has successfully executed the Linux boot process on the field-programmable gate array (FPGA) prototype of its Prodigy Universal Processor.

ASUS Platform Profile Support, Alder Lake PMC Support + More Land For Linux 5.15 - Phoronix [4]

The platform-drivers-x86 area of the kernel continues to be quite active with particularly offering better support for modern Intel/AMD laptops. With Linux 5.15 there is another big batch of improvements that landed at the end of last week.

Brendan Gregg: ZFS Is Mysteriously Eating My CPU [5]
A microservice team asked me for help with a mysterious issue. They claimed that the ZFS file system was consuming 30% of CPU capacity. I summarized this case study at [Kernel Recipes] in 2017 and have shared the full story here.

## 1. Problem Statement
The microservice was for metrics ingestion and had recently updated their base OS image (BaseAMI). After doing so, they claimed that ZFS was now eating over 30% of CPU capacity. My first thought was that they were somehow mistaken: I worked on ZFS internals at Sun Microsystems, and unless it is badly misconfigured there's no way it can consume that much CPU. I have been surprised many times by unexpected performance issues, so I thought I should check their instances anyway. At the very least, I could show that I took it seriously enough to check it myself. I should also be able to identify the real CPU consumer.

## 2. Monitoring
I started with the cloud-wide monitoring tool, [Atlas], to check high-level CPU metrics. These included a breakdown of CPU time into percentages for "usr" (user: applications) and "sys" (system: the kernel). I was surprised to find a whopping 38% of CPU time was in sys, which is highly unusual for cloud workloads at my employer. This supported the claim that ZFS was eating CPU, but how? Surely this is some other kernel activity, and not ZFS.

## 3. Next Steps
I'd usually SSH to instances for deeper analysis, where I could use mpstat(1) to confirm the usr/sys breakdown and perf(1) to begin profiling on-CPU kernel code paths. But since Netflix has tools (previously [Vector], now FlameCommander) that allow us to easily fetch flame graphs from our cloud deployment UI, I thought I'd jump to the chase. Just for illustration, this shows the Vector UI and a typical cloud flame graph.

- GitHub merges 'useless garbage' says Linus Torvalds as new NTFS support added to Linux kernel 5.15 [6] [Ed: By Microsoft Tim [7]]

Linus Torvalds will pull Paragon Software's NTFS driver into the 5.15 kernel source? but he complained about the use of a GitHub merge in the submission, saying that GitHub "creates absolutely useless garbage merges."

Early last month Torvalds gave Paragon Software a nudge that it really should submit a pull request? an actual submission of code to be merged into the kernel source? in order for its read-write NTFS driver to be included in the forthcoming 5.15 release, for which the merge window is currently open. NTFS is the native Windows file system and Paragon's implementation will improve interoperability, versus the existing driver which has limited write support.

On Friday Paragon duly submitted its pull request, saying: "Current version works with normal/compressed/sparse files and supports acl, NTFS journal replaying."

Source URL: [http://www.tuxmachines.org/node/155335](http://www.tuxmachines.org/node/155335)

Links: