

# Sysadministrivia

## Linux, Lagers, and Late Nights

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# S5E19: "RAM it in Hardware"

Posted 2020-11-08 23:59

Modified 2020-11-10 11:51

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### Log

Recorded (UTC)	Aired (UTC)	Editor
2020-10-29 02:43:30	2020-11-07 08:24:55	"Edita"

### Verification

Format	SHA256	GPG	Audio File
MP3	465a1464e0d3fc8a1d61853fffc9fe35936f1761d549913b9bdc4bc281a45b76	click	click
OGG	0a216245a0a0974f5ddc12c5e230153dac7e7843a931ef29589d0eff9919fdca	click	click

Quicklisten:

In this episode, we delve deeper on the topic of hardware for servers – specifically, Jthan features a lengthy look into ECC RAM.

I apologize if my audio seems a bit off in this one; I lost my local recording so we had to rely on Mumble's recording!

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## Just the Tip

- Paden talks about how **not** to perform a software/platform/etc. migration.

## Notes

Starts at **25m34s**.

I was drinking a Guinness Draught. Paden was drinking Grey Goose vodka and orange juice. Jthan was drinking Michelob Ultra.

- ECC ("Error-Correcting Code") RAM
  - ECC RAM with ZFS is a mixed bag – it has some tradeoffs.
    - ECC RAM is a bit slower.
  - "Segfaults instead of kernel panics", for an abstract way of looking at it.
  - They also log hardware errors in the MCE ("Machine Check Exception") log.
- Power supplies (**38m33s**)
  - How many PSUs?
    - For availability, Jthan thinks you should get at least a single failover (2x total) PSU chassis/board.
  - For boxes with high power consumption, keep in mind the failover factor needed!
- Disks (Hard drives) (**42m44s**)
  - Jthan recommends enterprise disks because they last longer.
  - If you're using platter disks, remember about vibrational sensitivity (and the vibration the disks themselves generate as well)!
  - Jthan whores about ZFS again and then promptly forgets to talk about it. He really wanted to talk about error recovery control.
  - He also cautions about how spin-up/spin-down affects warranty and guaranteed lifetime of disks.

## 15 Clams

In this segment, Jthan shares with you a little slice of life. The title is a reference to this video. (2m16s in)

Starts at **59m10s**.

Jthan tells us about the datacenter watercooled in a pond.

And by that he means make sure you have backups and a restore procedure. Also make sure you have a failover plan or procedure for your secondary/failover backup server if it fails.

## Errata

- This is the poll we were referring to in the intro. Relax, we recorded this before the election even started.
- Dook in Peace. Charlie Buckets (the ferret). You were a good boy. :(
  - I was wrong, he was actually pretty young. It's not unheard of for them to die around 4 years old from cancer or other medical conditions, but he was still fairly young (~7 years is roughly the upper limit if they develop cancer. "Old" would be 13 if natural causes/old age.). He died of a heart attack. He was 3.5 and had degenerative cardiomyopathy.
  - You can find photos of him here: 1, 2, 3, 4
  - Still miss ya, bud.
- I reference the Good, the Bad and the Ugly (which Jthan hasn't seen because he doesn't watch good movies apparently).
  - Let us know which one of the Sysadministrivia hosts are each character in this scene (spoiler alert).
  - But also it's from the mid-60's and not the 70's, oops.
- ZFS was written originally by three people.
  - Jthan said he was thinking of Matt Ahrens, specifically this quote from him.
- Regarding platter drives and vibrational sensitivity, this will forever be one of my favourite videos.
- Member **loken** in our Discord has pointed out to us the following. Thanks, loken!
  - There are non-Xeon Intel processors that support ECC.
  - Supermicro (and possibly others) have boards that **require** ECC RAM to be used!

## Music

### Music Credits

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**Categories** Season Five

## Comments

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