

SRE is Weird, Down the Stack

Plumbing the Bowels of Production

John Looney - Reddit Infrastructure



Where I've been an SRE

Upper-Level Infra

- ML training
- Ads Serving

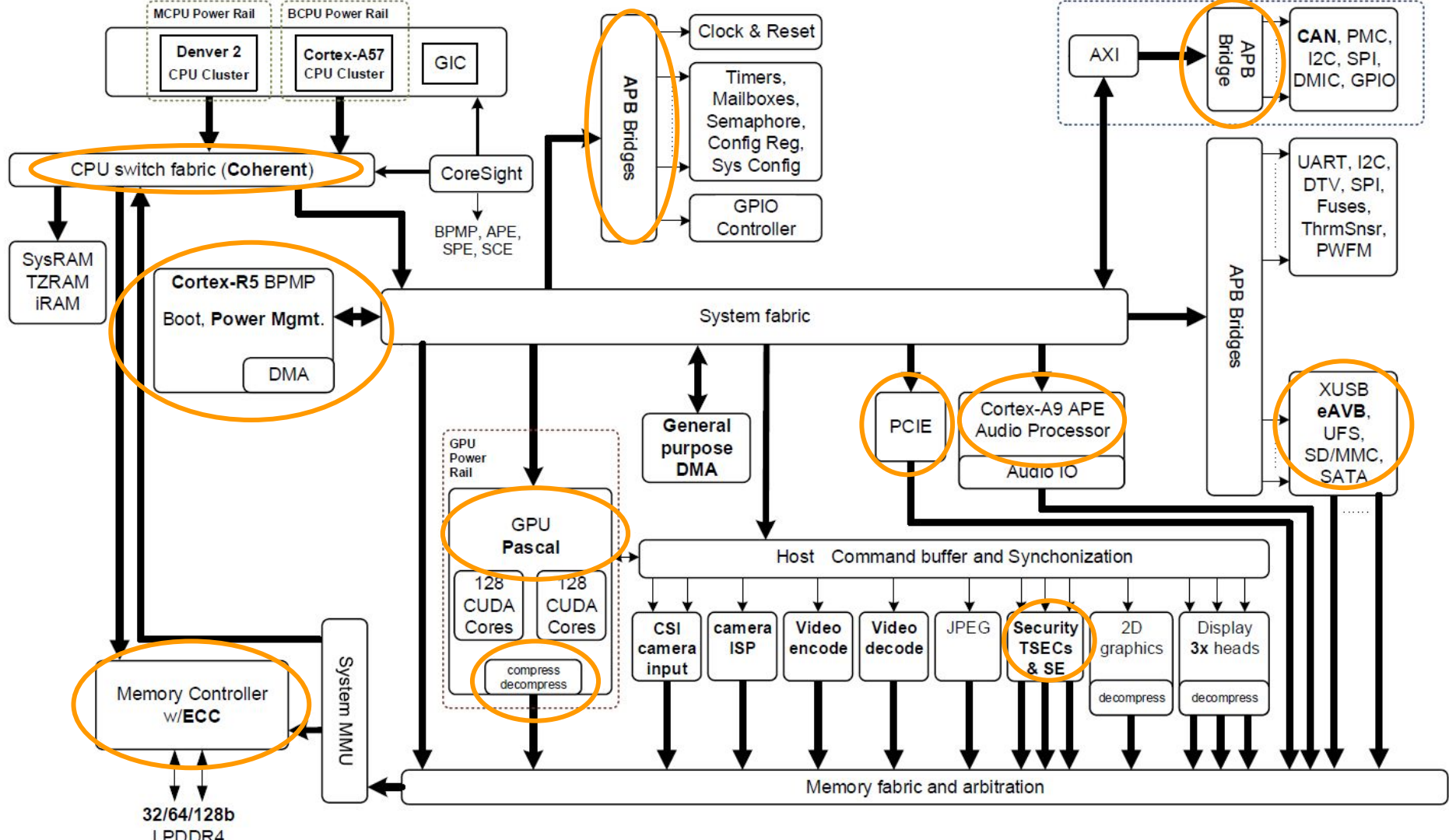
Low-Level Infra

- Storage (filesystems, databases)
- Bare Metal & Cloud Compute
- Lockservering
- Datacenter Automation
- Modem banks (no, really)

How low can SRE go ?

Modern Hardware

[Timothy Roscoe's talk](#) on "OS people need to rediscover hardware"



System Management Mode

A glitch in the Matrix

On Time, High Quality, Cheap

Pick one

That wasn't in the spec

Are you serious ?

Other customers don't mind

Once it's shipped, changes become unlikely

Upstreaming is Risky

Fix the least you can

Without source,
we are helpless

Why is it this way ?

Web Developers ship hourly

A new server platform is a 3 year process

The Treadmill of Misery

Requirements

Designed

Sampled

Testing

Shipped!

V2 Sampled

V2 Shipped

V1 Decommed

2

2

2

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4

6

0

Rollback a bad software push = minutes

Bad Hardware ? "Ooooh."

"I'll fix & push that now"

"I'm sure the software people can workaroud"

"#YOLO"

-- Node developers

"One does not improvise the deployment of millions"

-- von Moltke

"If we have a work around,
why fix the hardware ?"

-- HW Eng

"If we won't see a fix for
years, why log bugs ?"

—

-- Ops

"We get few bug reports after shipping, why staff a team ?"

-- HW Eng

Ops Need to Engage

And SRE ?

What do we do ?

- Talk to DC techs, DC automation, Qualifcation, Infra SRE
 - Create/Audit on Requirements
 - Assess impact on reliability, velocity
 - Find bugs earlier
-

Ask for the Source

But .. we use The Cloud

Trust But Verify

Trust But Verify

"Elite teams are 4x less likely to outsource testing than low-performing teams" - DORA 2019

The Cloud Changes Daily

Share Requirements & Tests

Share Requirements & Tests

We should talk; github.com/linuxboot/contest might do the job

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- Qualify foundations
 - Meet hardware halfway
 - Specify & Test
 - Share tests
 - Don't give up