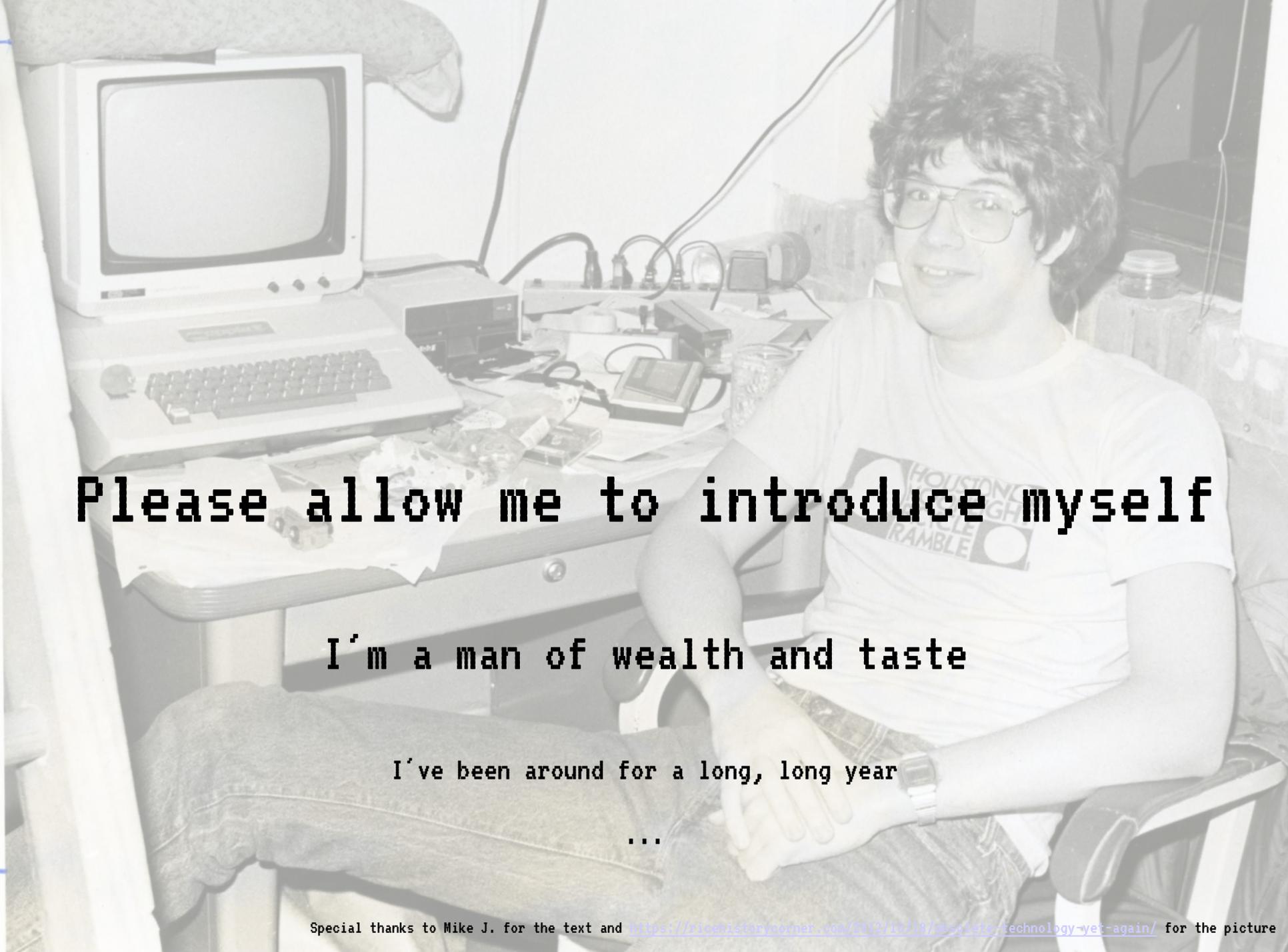


Linux Piter 2016

Saint Petersburg



PowerCI.org:
Product development
CI loop based on kernelci.org

A young man with dark, curly hair and glasses is sitting in a chair at a desk. He is wearing a white t-shirt with a graphic that says "HOUSTON NIGHTS" and "RAMBLE". He is smiling slightly. The desk in front of him has a computer monitor, keyboard, and various other items. The background is a cluttered room.

Please allow me to introduce myself

I'm a man of wealth and taste

I've been around for a long, long year

...

Nice, French Riviera



NICE, FRENCH RIVIERA... TODAY!



**BTW, WHY DO WE NEED QA FOR
MAINLINE KERNEL?**



**BTW, WHY DO WE NEED QA FOR
MAINLINE KERNEL?**

BECAUSE MAINLINE KERNEL SUCKS !!!



BTW, WHY DO WE NEED QA FOR
MAINLINE KERNEL?

BECAUSE MAINLINE KERNEL SUCKS !!!

TRUE STATEMENT



FINE, BUT WHY DOES IT SUCKS THAT MUCH?



FINE, BUT WHY DOES IT SUCKS SO MUCH?

BECAUSE IT IS ALMOST NEVER TESTED
ON ALL THE SUPPORTED HW !!!



ARM ECOSYSTEM... LONG TIME AGO

ARM



QUALCOMM[®]



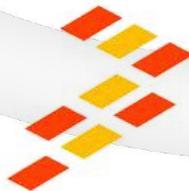
NVIDIA[®]

RENESAS

ARM



**TEXAS
INSTRUMENTS**



freescale[™]
semiconductor



QUALCOMM[®]

SIERRA
WIRELESS[™]

RENESAS

M maxim
integrated[™]



TEXAS
INSTRUMENTS

@mlogic



freescale[™]
semiconductor

ALTERA

now part of Intel

ARM

Samsung



Exynos[®]

PROCESSOR

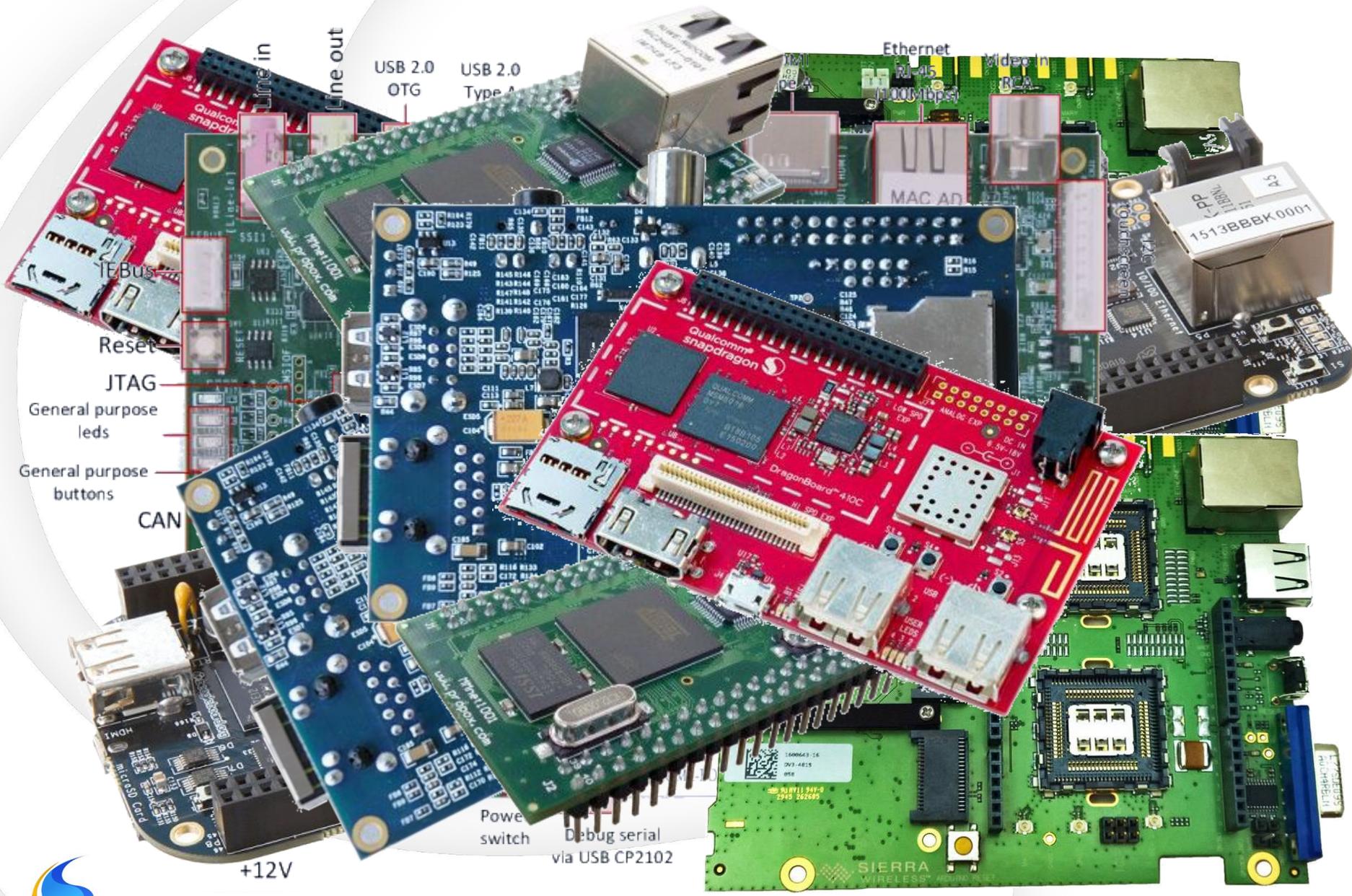


MARVELL[®]

BROADCOM[®]

Rockchip





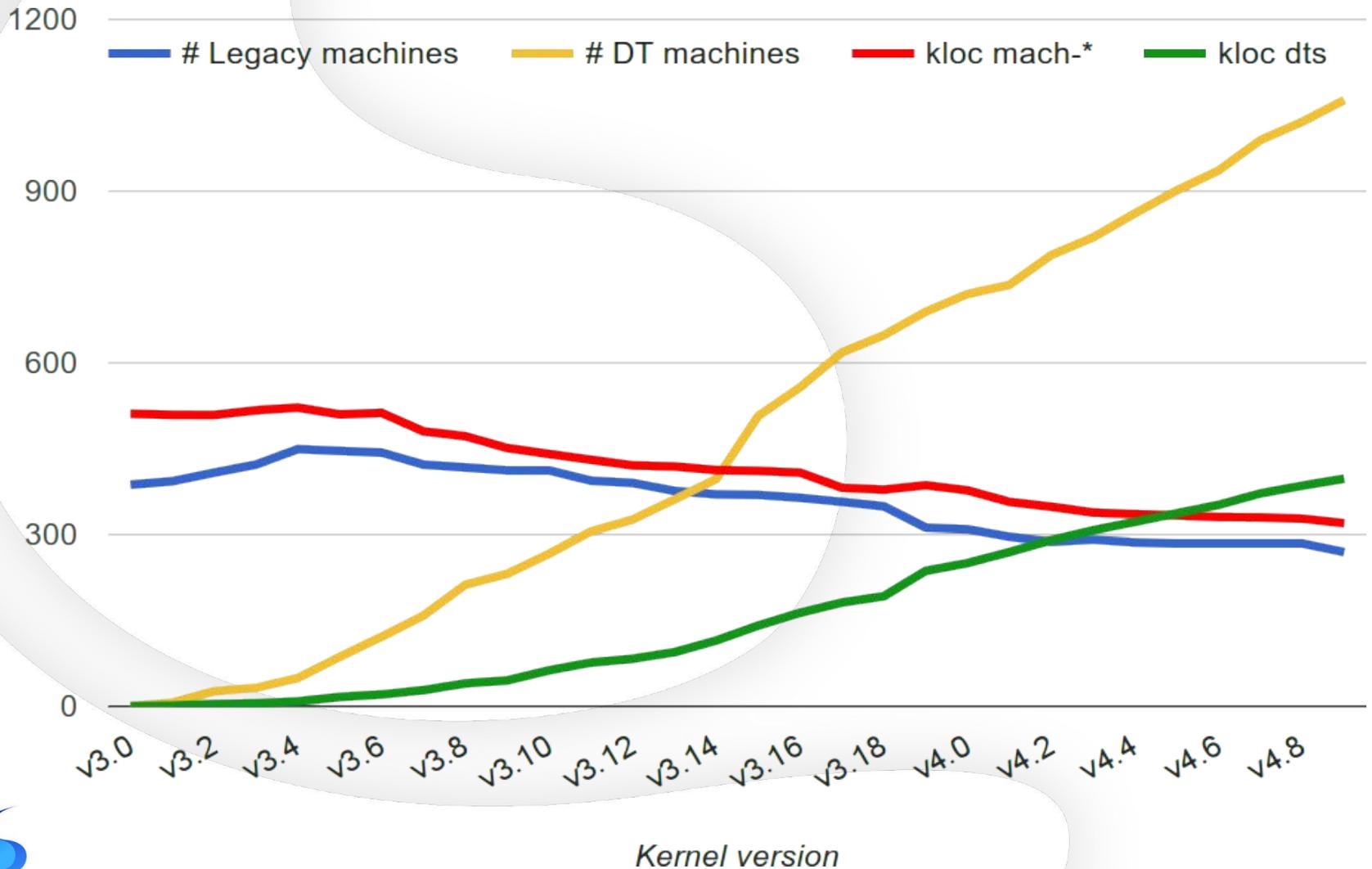
+12V

Power switch
Debug serial
via USB CP2102



SIERRA
WIRELESS

SUPPORTED MACHINES IN ARM ARCH



Kernel version

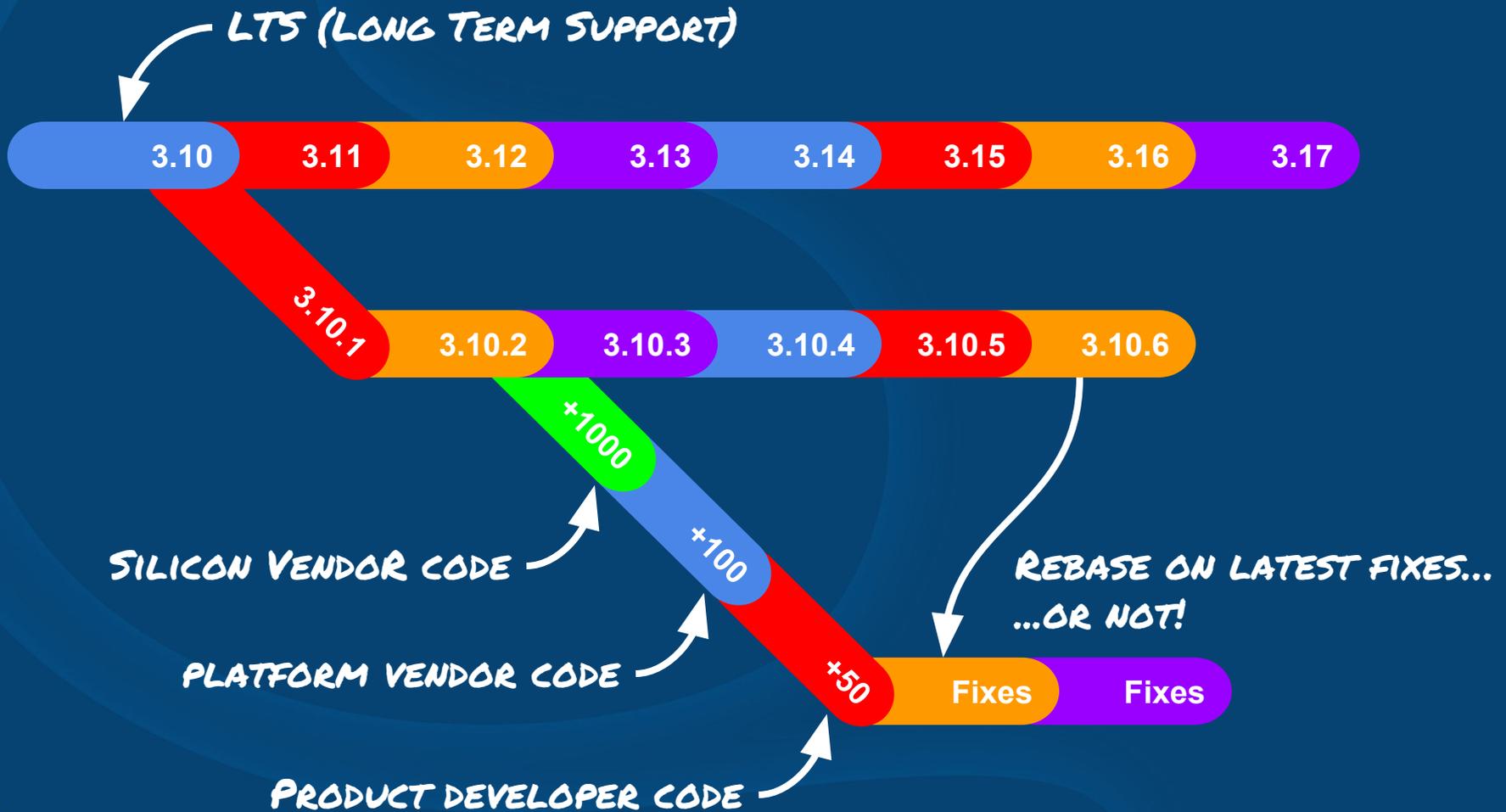
HUGE AMOUNT OF BOARDS
+
ACTIVE LINUX COMMUNITY
=
BIG MESS



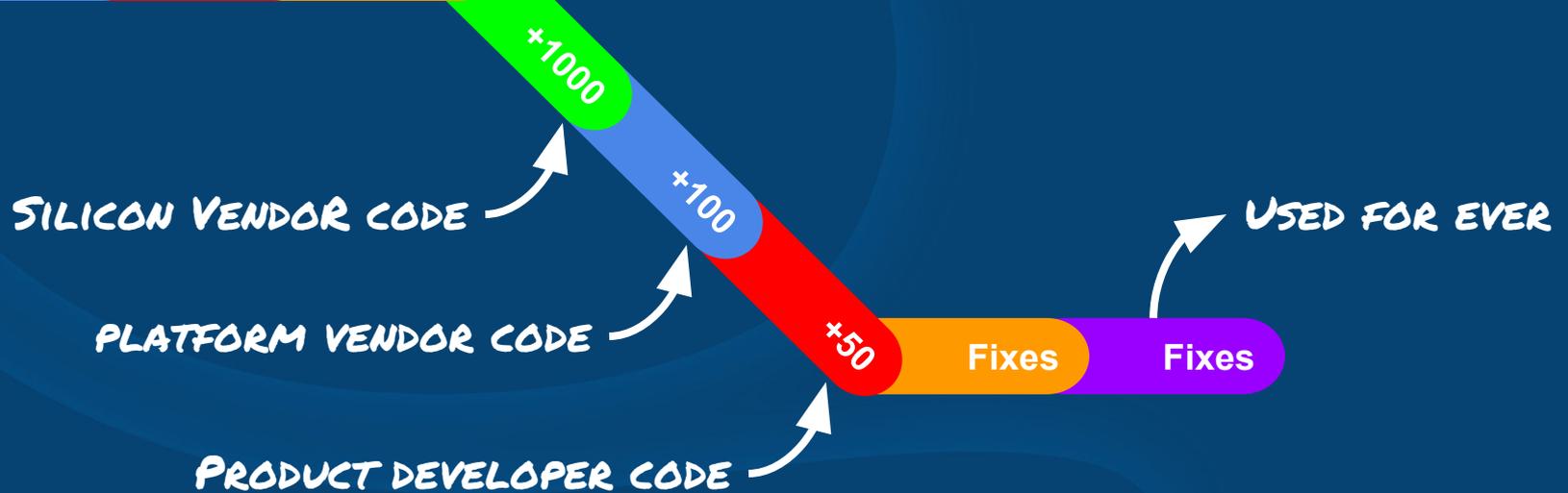
**HOW CAN WE EXPECT A PRODUCT
DEVELOPER TO USE THE MAINLINE
KERNEL KNOWING THAT?**



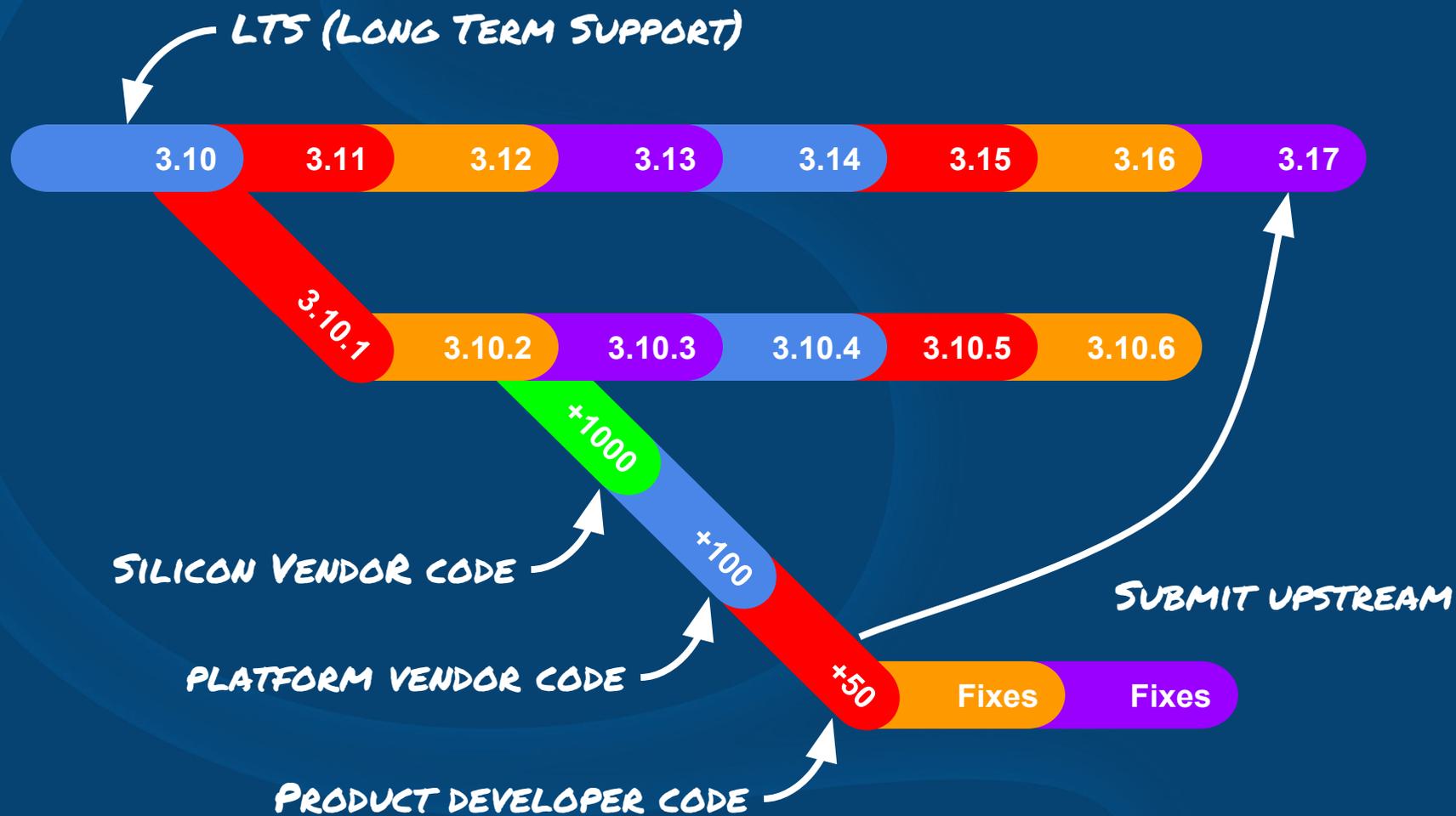
PRODUCT DEVELOPMENT



BAD (REGULAR) PRODUCT DEVELOPER



GOOD PRODUCT DEVELOPER

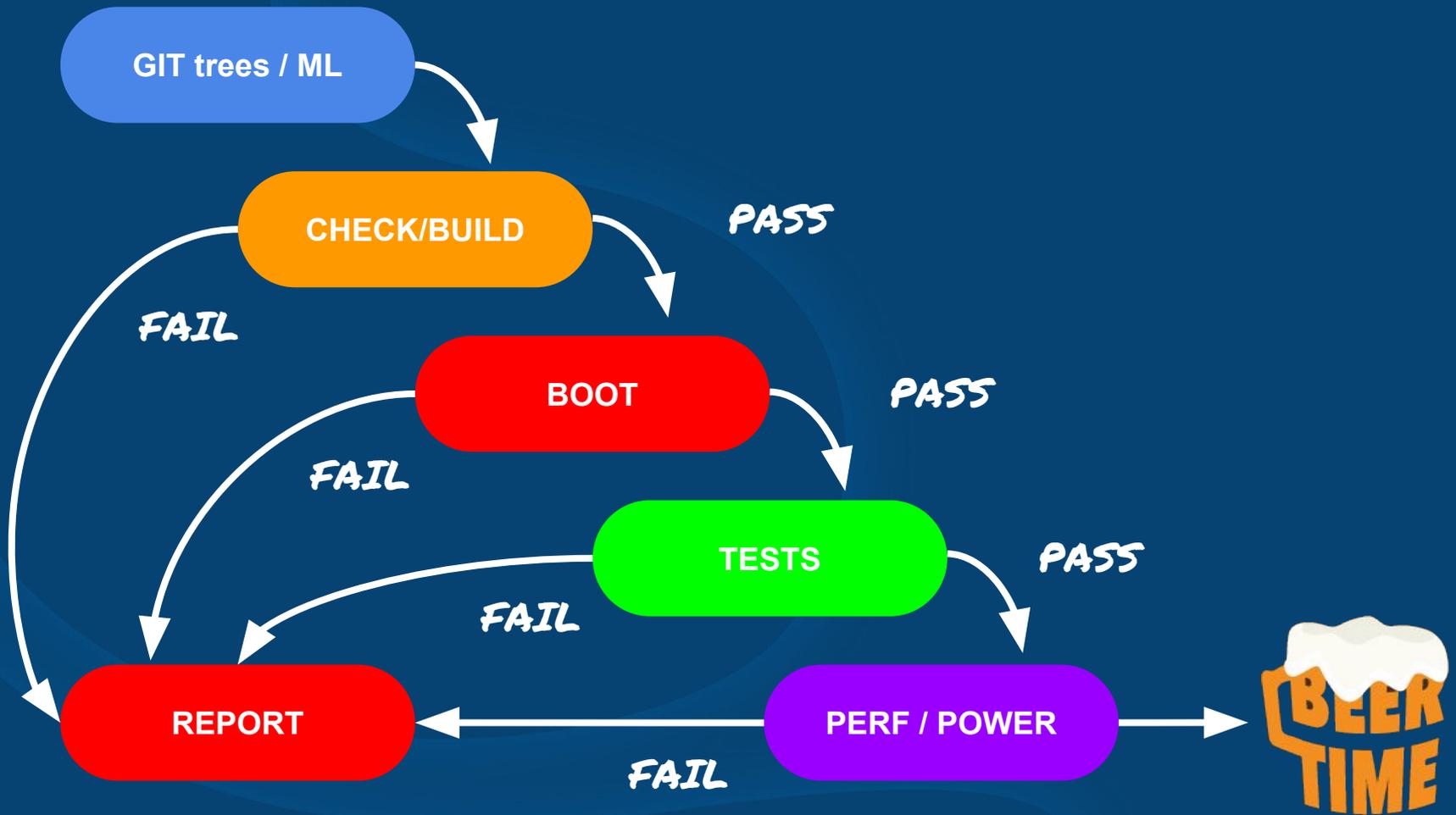


SOLUTION:

**QA USING CONTINUOUS INTEGRATION
ON A WIDE RANGE OF PRODUCTS**



CONTINUOUS INTEGRATION



EXISTING SOLUTIONS:

0-DAY

KERNELCI.ORG



0-DAY IS...

CHECKING



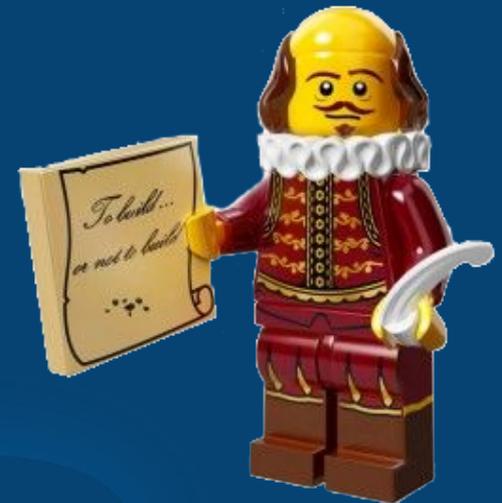
PAMELA



BOB

BUILDING

REPORTING



WILLIAM



O-DAY IS AS WELL...

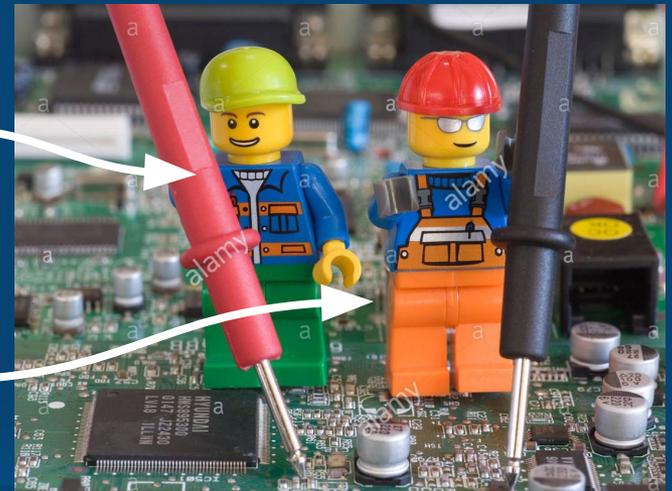


A BOOT

BOOTING

TESTING

MEASURING



MIKE

JOHN



NOT FOR ARM



KERNELCI.ORG IS...



BOB

BUILDING



STILL A BOOT

BOOTING

CHECKING



PAMELA

REPORTING



WILLIAM

TESTING



MIKE

JOHN



KERNELCI.ORG IS...



BOB

BUILDING



STILL A BOOT

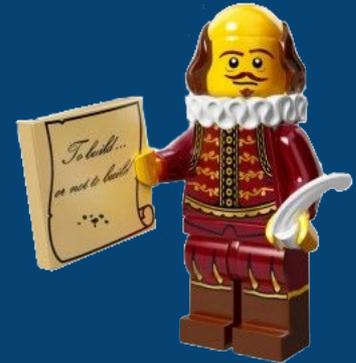
BOOTING

~~CHECKING~~



PAMELA

REPORTING



WILLIAM

~~TESTING~~

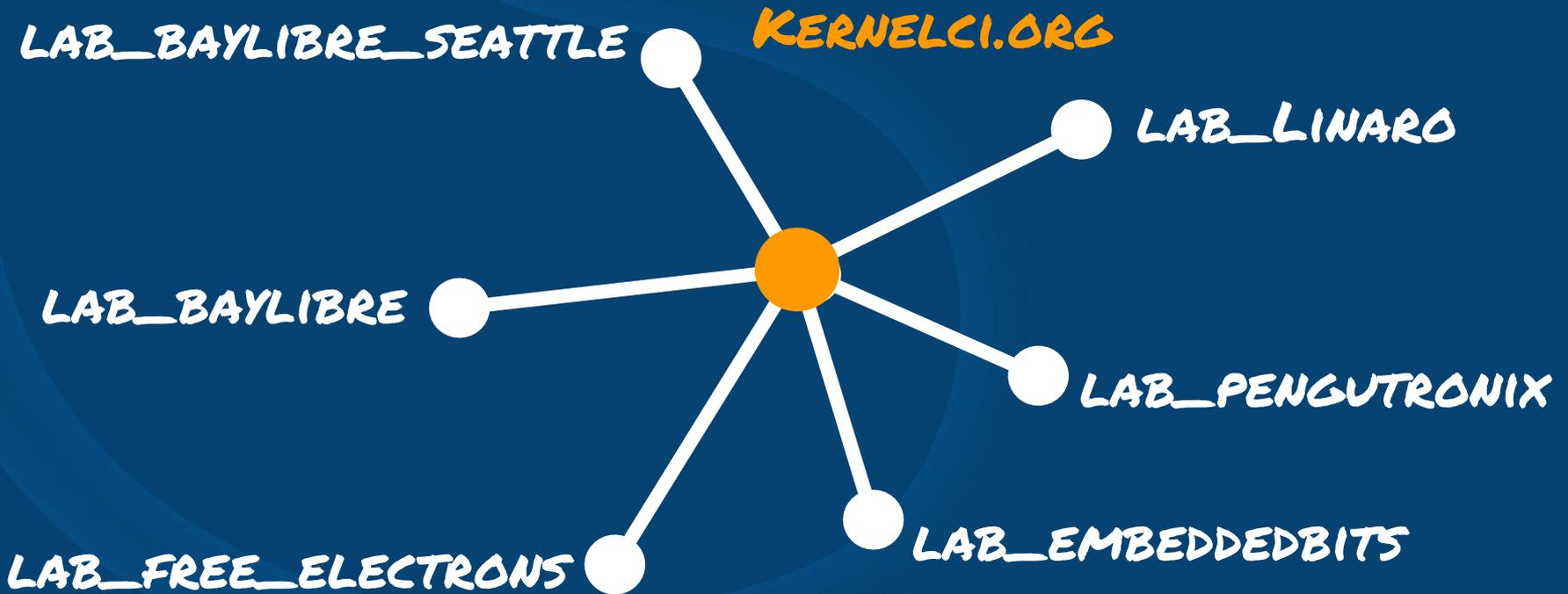


MIKE

JOHN



DISTRIBUTED LABS



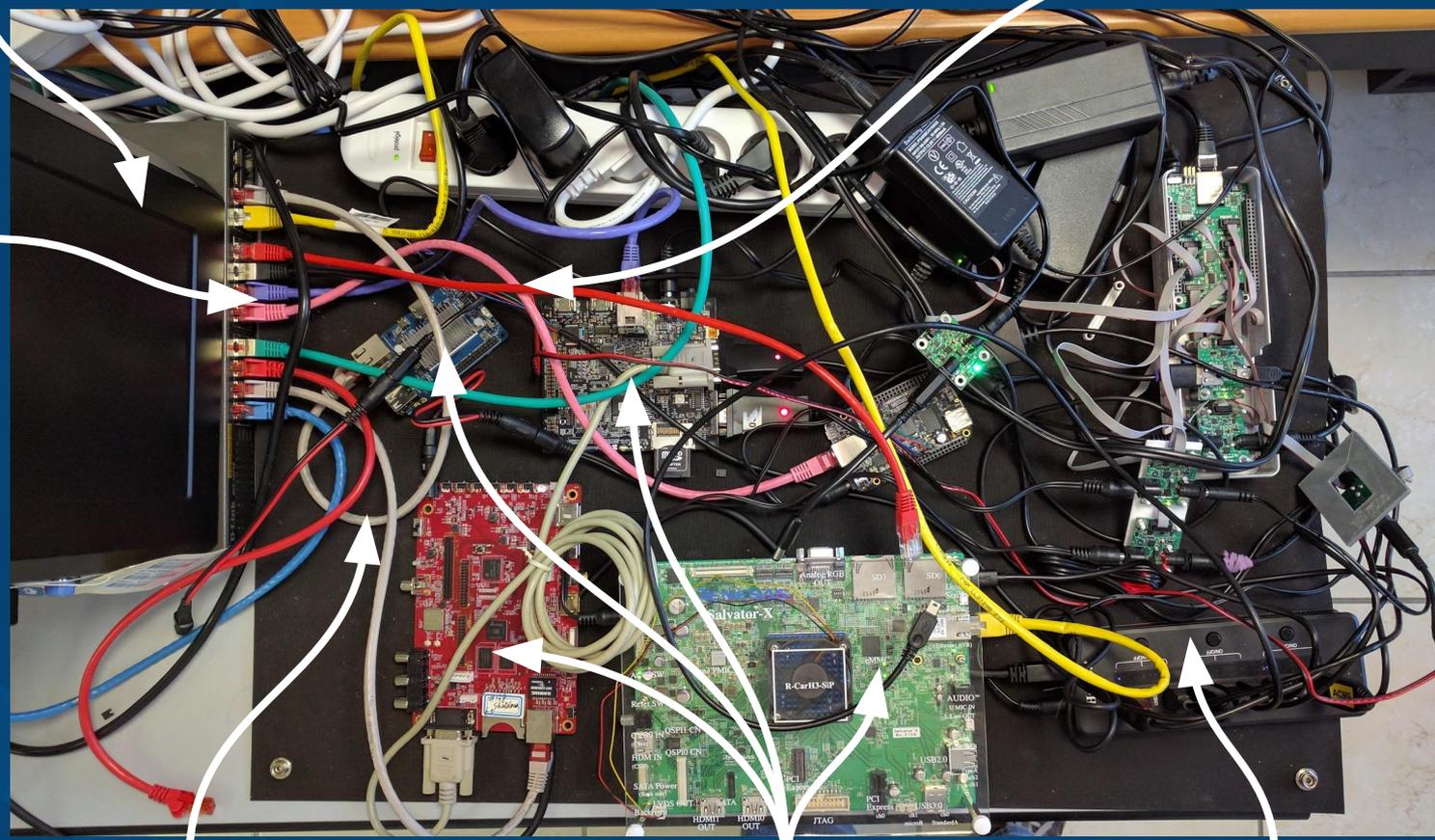
BTW, WHAT IS A LAB?



MEDIEVAL LAB

PC

CABLES



SWITCH

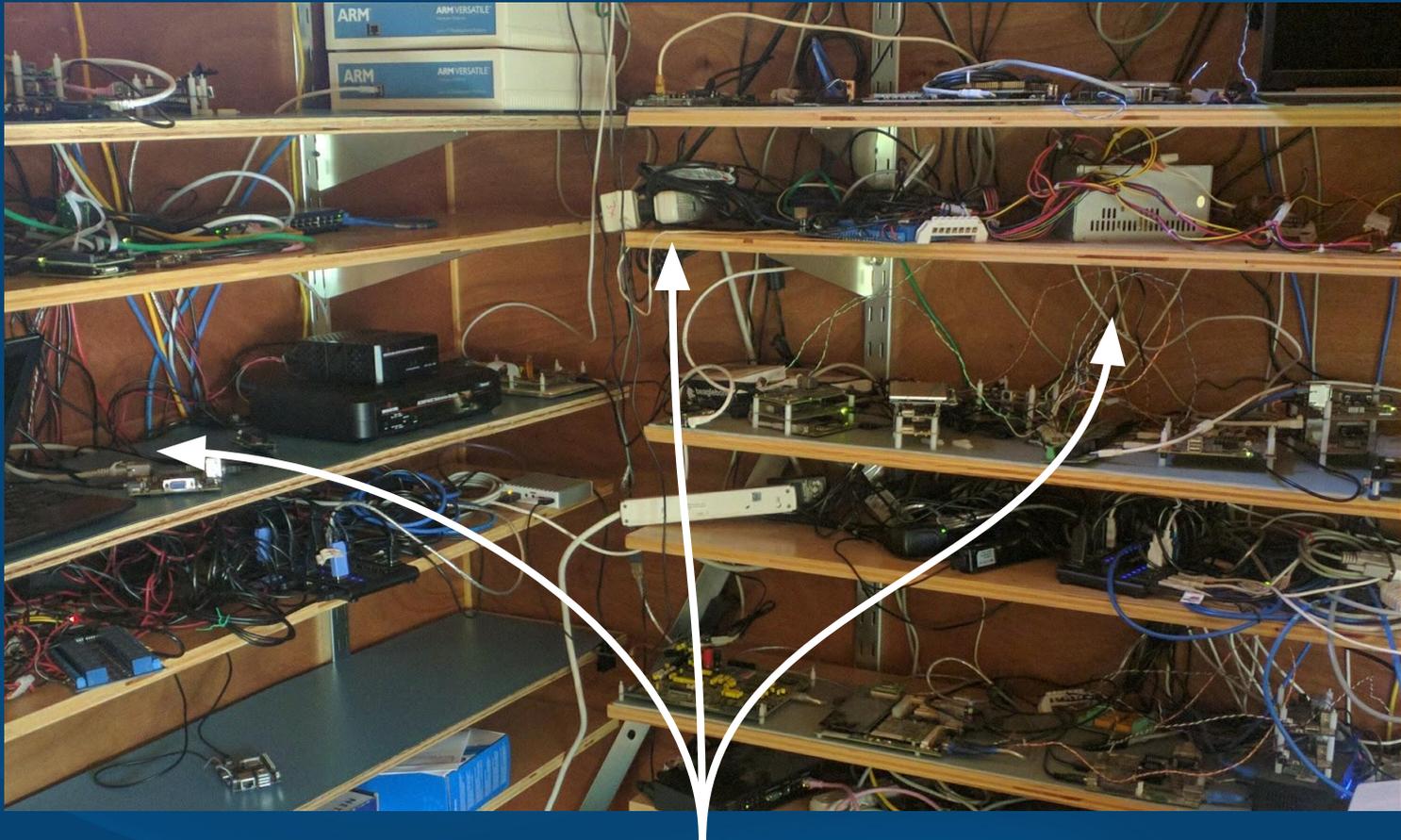
MORE CABLES

BOARDS

USB HUB



MODERN LAB



A BUNCH OF STUFF... ORGANIZED



WHAT ABOUT MIKE AND JOHN?

HI, I'M MIKE

HI, I'M JOHN



THEY'VE JUST GOT A JOB AT
POWERCI.ORG



JOHN IS IN CHARGE OF POWER AND PERFORMANCE MEASUREMENT

CONGRAT FOR THE NEW JOB JOHN!

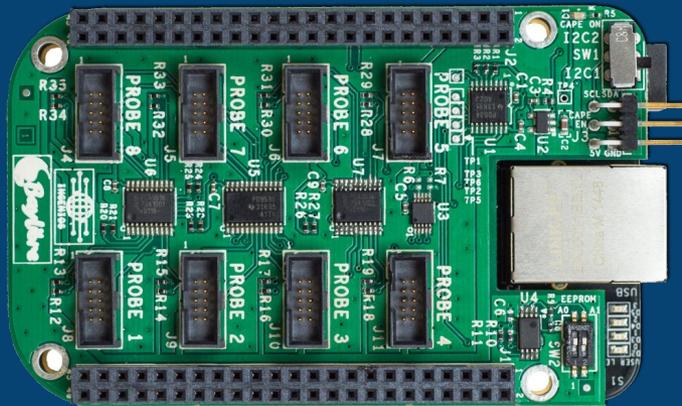


THANKS BUDDY!

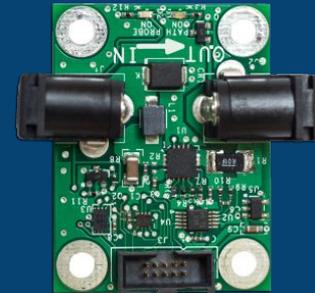


POWER MEASUREMENT HW

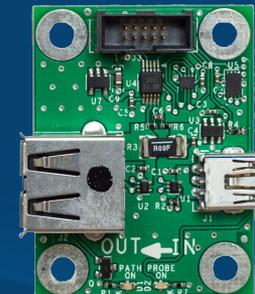
ACME (BEAGLEBONE BLACK CAPE)



JACK PROBE



USB PROBE



MANAGER VIEW

Power details

State	Power	Target	Current
ON	IoT #0 VBUS VCC_3V3 VCC_1V8	11 mW	10.70 mW
OFF	IoT #1 VBUS VCC_3V3 VCC_1V8	160 mW	0 mW
OFF	IoT #2 VBUS VCC_3V3 VCC_1V8	150 mW	0 mW
ON	CF3 socket #0 VBUS VCC_3V3 VCC_1V8	100 mW	210 mW
OFF	CF3 socket #1 VBUS VCC_3V3 VCC_1V8	100 mW	0 mW
ON	Total VBUS VCC_3V3 VCC_1V8	260 mW	550 mW

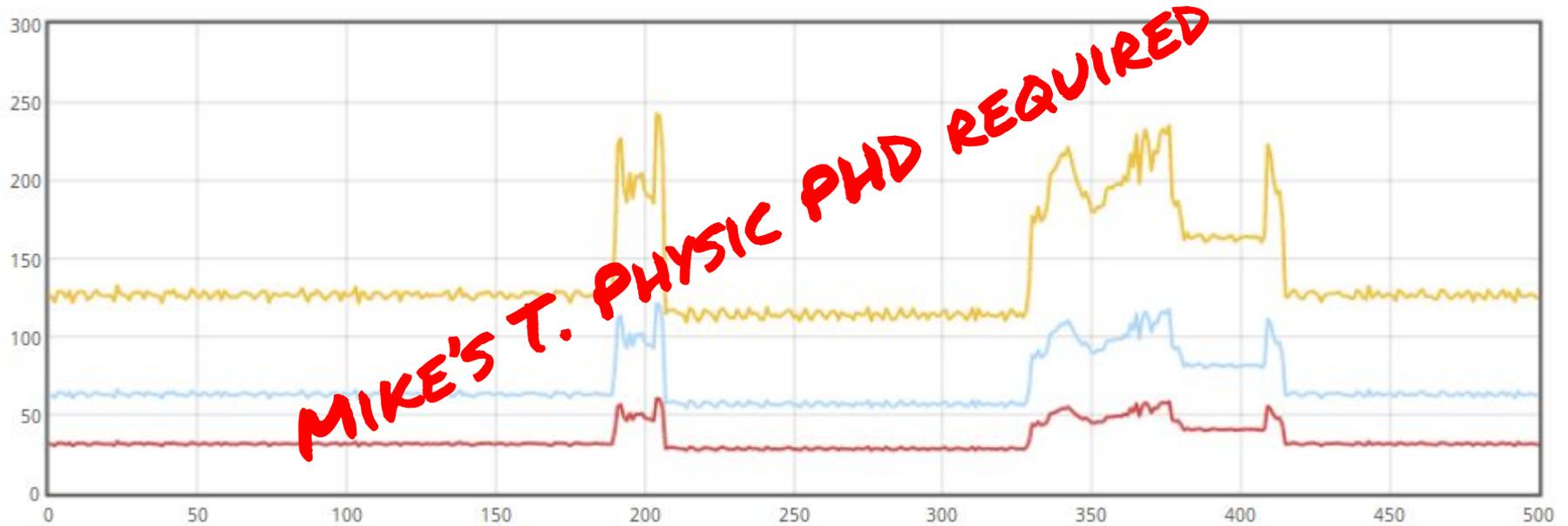


ENGINEER VIEW

Power - Total (mW)

Start 

1 sample every 50ms



Update interval: ms



MIKE IS IN CHARGE OF TESTING

YOU ARE THE GUY FOR THAT JOB MIKE!

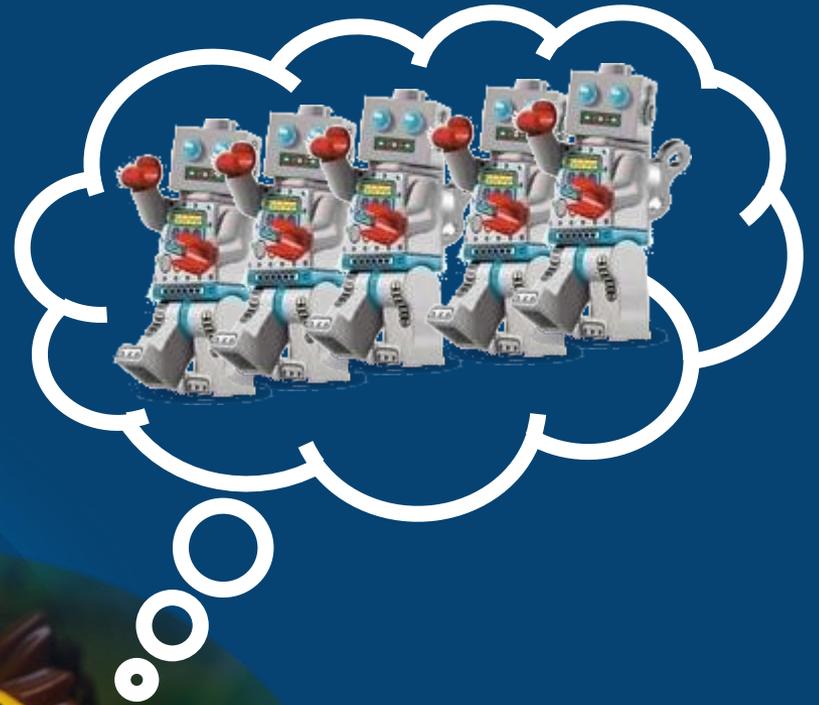
THANKS MAN!



WHAT DOES "IN CHARGE OF TESTING"
MEAN ?



WRITE AUTOMATED TESTS



THAT'S A LOT OF WORK FOR MIKE AND JOHN

IF YOU WANT TO
HELP, YOU ARE VERY
WELCOME



MORE HW
MORE TESTS
MORE
VISUALIZATION
TOOLS



THANKS A LOT FOR YOUR TIME !

THAT'S NOT FAIR !
HE IS HAVING FUN AT
SAINT PETERSBURG
WHILE WE ARE
DOING THE HARD
WORK



YOU'RE RIGHT !
LET'S HAVE A
BEER !



END OF PRESENTATION

BACKUP SLIDES

DO NOT ENTER!

